A Datapro Feature Report

All About
Electronic Typewriters

by the editors of
Datapro Reports on Word Processing

This report is one of several hundred such reports on data processing and office system hardware, software, services and companies that make up the authoritative Datapro volumes. These volumes are an integral part of each of Datapro's four-part information services for EDP and office professionals. The other service components, subscribed to on an annual basis, include monthly supplements to the volumes, monthly interpretive newsletters, and Custom Consulting with our analysts. Completely independent in its research and evaluations, Datapro publishes the most widely used EDP reference and information services.

datapro

Electronic Typewriters

Panasonic KX-E708

▷ The automated features of an electronic typewriter can help the operator to be more efficient. The automatic error correction feature operates in conjunction with a character buffer to automatically lift off incorrect characters with one keystroke, unlike manual backspace correction devices which require the operator to type the error again to remove it. The internal phrase storage temporarily holds frequently used phrases or sentences for recall. The working memory, which is devoted to the temporary storage of several single-page documents or a multi-page document, simplifies text revision because, as long as the document remains in storage, the text can be revised until the final version of the document is achieved. The electronic keyboard requires a much lighter touch to operate, which increases typing speed. The display provides a window into the keyboarded or stored text much the same way the CRT of a word processor displays the text currently being worked on. Scrolling allows the text to be viewed in increments for proofreading and editing. The programming in the unit provides general features which are used by the operator to perform daily routing tasks more efficiently with specific features devoted to particular types of office work such as statistical typing and form letters.
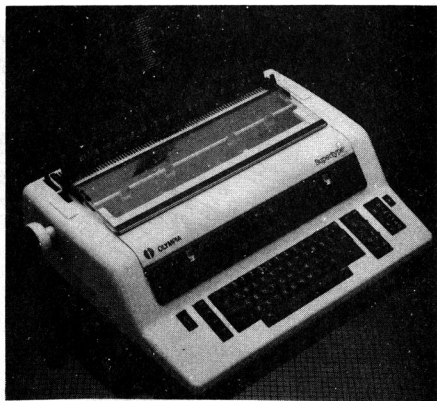
Electronic typewriters are best suited for use at the individual secretary's workstation for general office work including memos, letters, forms fill-in, reports, documents, and statistical work. They can also be used in a situation that does not require advanced processing, or they can be used as a supplement to the word processing center for times when the center is busy or for work that does not need to be stored on diskette. In either situation, electronic typewriters are usually in use an average of four to six hours per day on an eight hour per day basis.

The history of the electronic typewriter begins with the history of the electric typewriter which was first introduced by IBM in 1933. Speculation on the success of the electric typewriter continued into the 1950s in much the same way that the electronic typewriter market has received much speculation today. The product gained popularity; and, in 1961, IBM introduced the first replaceable, interchangeable single element typewriter. The electronic typewriter

emerged on the market in January 1978 when the Qyx (now Exxon) Intelligent Typewriter was introduced, followed closely by an announcement by IBM. The Qyx typewriters provided an upgradable product line with all basic electric typewriter features in addition to text input features, an optional 24-character LED display and communications. Olivetti (now Docutel-Olivetti) introduced the first electronic typewriters to incorporate a display on a machine with a price tag under $2,000.
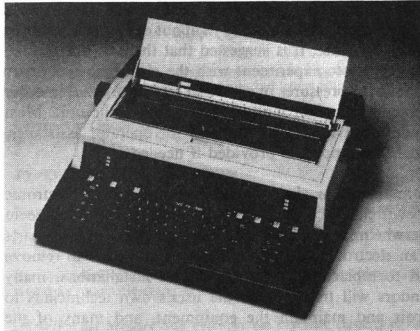
GENERAL FEATURES

The automated features usually included with an electronic typewriter are based on the level. These features are discussed in more detail in the explanation of the tables at the end of this section of the report. Standard-level electronic typewriters most likely provide, in addition to the correction buffer, the ability to automatically set margins and tab stops with the touch of a key, index and reverse index, half space, automatic centering, underscore, decimal tab settings and decimal alignment, and relocate after a typing error has been corrected. They may also be equipped with an automatic carriage return feature, a margin scale, an end of page indicator, an impact control, a pitch selector, and a line spacing selector. Mid-level electronic typewriters include the features offered by the standard-level units with the addition of a phrase and format memory consisting of approximately 1,000 characters, more advanced printer features including automatic first line advance, end of page stop, justified printout, sub- and super-script printout, non-adjusted printout, bidirectional printout and a delay print mode to print one word or line at a time after it is keyboarded. The mid-level typewriters incorporate text processing features which increase the abilities of the electronic typewriter, providing default and stored format settings, forms input and stop codes for form letters and column layout. The high-level electronic typewriters provide the features of the standard-level and mid-level units with more advanced features including a text memory for

Olympia Supertype 2

Electronic Typewriters

TEC America TW-3000

▷ documents anywhere from one page to fifteen pages long, pagination, document assembly and merge, text search including global search and replace, and block move and copy. Additionally, the high-level typewriters can be equipped with external text storage via mini-diskettes or cassettes and an add-on CRT.

Communications is a valuable feature offered by many electronic typewriters of almost any level with a larger concentration noted in the mid- to high-level range. The ability to communicate provides the electronic typewriter market with the cornerstone for future growth. Communications, when compatible, enables the electronic typewriter to successfully fit into the "office of the future," a world governed by word processors and micro-computers. With communications, the electronic typewriter can become a low-cost input or output peripheral for other more advanced automated systems. Compared to other letter-quality printers on the market, an electronic typewriter provides a viable alternative that is cost effective and provides high quality output for systems such as small business or personal computers. Communications is most commonly provided through an RS–232–C port via a cable and the appropriate communications protocols.

ADVANTAGES

Electronic typewriters provide benefits to the user as low-cost, entry-level systems to word processing and as simple upgrades from electric typewriters. The advantages to installing an electronic typewriter when a word processor is really not needed are a savings in cost as well as in providing a training ground for the future installation of a word processing system. In addition, the electronic typewriter can later be integrated into the word processing-based office environment as an input terminal or a printer, or as a backup, albeit more primitive, text processor. Additionally, the electronic typewriter itself can serve as the base for a word processing system if an add-on system is attached to it. Add-ons, which consist of a standard CRT and removable magnetic media or internal memory, allow the operator to upgrade the electronic typewriter to a word processing system. Add-on units are priced so that when

added to an electronic typewriter, the cost falls at or just below that of low-end, dedicated word processors. Thus, the buyer can get his or her feet wet concerning text processing without the initial expense involved in full-scale word processing equipment. Of course, an electronic typewriter can be substituted for a word processor only when the office does not need the processing power of a word processor. A separate report on add-on CRT equipment is provided immediately following the comparison table section of this report.

The benefits to be gained by buying an electronic typewriter rather than an electric typewriter are that they offer greater reliability and functionality than electric typewriters offer. Electronic typewriters are composed of electronic rather than electromechanical parts; thus, they have 50 percent fewer parts than electric typewriters which provides greater reliability. Electronic typewriters offer 10-, 12- and 15-pitch typing in addition to proportional spacing, whereas most electric typewriters are dual-pitch machines; and most electronic typewriters also employ daisywheel printing elements which are less expensive, more durable and more versatile than the golf-ball type single elements used by most electrics. Electronic typewriters are a newer concept and are more ergonomically designed for operator comfort. Keyboards are usually lower with stepped keys or dished keys, and an electronic keyboard is much more responsive to pressure so that it requires a lighter touch to activate. Additionally, the keyboard mechanisms are electronically controlled rather than mechanically controlled which provides a more efficient, faster response time. Most typists experience an increase in typing speed with an electronic typewriter. Electronic typewriters are also designed so that most typing controls such as line spacing and pitch selection are located on the keyboard, rather than on top of the typewriter as is the typical electric typewriter design. Also, most electronic typewriters are equipped with LED indicator lights to indicate to the operator when a feature is in operation, or they are equipped with a display to provide a ▷

Sharp ZX-505

Electronic Typewriters

KEY TO MID-LEVEL ELECTRONIC TYPEWRITER TABLE ENTRIES

Mid-Level electronic typewriters generally incorporate basic to advanced automated text entry/editing features with a character correction buffer, and a phrase, format and text memory of up to 4Kb. They are most often used to generate short documents with limited revision.

Company and Model identifies the vendor/manufacturer and the specific electronic typewriter by name or by model number.

TYPEWRITER CONFIGURATION

Standard Configuration identifies the integral or individual standard components of the typewriter, including keyboard, printer, display, and magnetic media. Options are not included.

Typewriter Upgrade describes by what means the typewriter is upgraded to a higher level, including unit replacement, board replacement, or board addition.

Correction Buffer Size describes the number of characters temporarily stored for automatic character correction.

Phrase/Format Memory Size describes the character capacity of the memory space devoted to the storage of frequently used phrases, sentences, words, and format settings.

Memory Protect describes the means and length of time that the contents of memory are protected from being lost while the typewriter's power is turned off.

DISPLAY FEATURES

Display Type describes the type of display technology employed, such as gas plasma or vacuum fluorescent.

Display Capacity lists the number of characters displayed at one time.

Character Generation describes the size of the dot matrix used to create the characters on the display.

LED Indicators describes whether or not the typewriter is equipped with LED lights to signal the operator when certain features or error conditions are in effect.

PRINTER FEATURES

Printer Speed/Type identifies the speed of the print mechanism in characters per second and the type of print element technology employed, such as daisywheel or typeball.

Printer Buffer Memory describes the amount of temporary storage for text between the keyboard and print mechanism.

Character Pitch/Spacing identifies the pitch selections, or horizontal number of characters per inch, and/or the availability of proportional spaced fonts.

Writing Line Width indicates the width of the typing line in inches.

Carriage Paper Width indicates the maximum paper width in inches.

First Line Forms Advance indicates the ability of a printer with automatic insert or a forms feed device to automatically advance to the first typing line of a page.

End-of-Page-Stop indicates the ability to halt the printer at the end of a page for paper handling or font change. Some electronic typewriters will not halt automatically, but they will provide a calibrated indicator device for page end decisions.

Justified Printout indicates the ability of the printer to produce text with a flush right margin.

Sub/Superscript Printout indicates the ability of the printer to print characters in line increments above or below the normal typing line.

Non-Adjust Printout describes the ability of the printer to print portions of text without margin or line length adjustment.

Bidirectional Printout indicates the ability of the printer to print from left to right and from right to left.

Delay Print Mode describes the ability to accept typed text while temporarily delaying printing. The operator can type and print character-by-character, word-by-word and/or line-by-line; printing is activated by the carriage return or spacebar.

Multi-Lingual Capability describes the ability to input and output foreign language text from the otherwise standard American keyboard and daisywheel or typeball.

AUTOMATED TEXT FEATURES

Default Format refers to the ability of the typewriter to automatically implement pre-set format information such as margin settings and tab positions unless otherwise specified by the operator.

Stored Multiple Formats defines the ability of the typewriter to store more than one set of format settings and to access the desired format on command.

Forms Input describes the ability of the typewriter to store the field positions of the prerecorded form for forms fill-in.

Stop Codes enable the operator to direct the printer to temporarily halt output for direct input from the keyboard for applications such as repetitive letters, or to change the typing element or ribbon.

Column Layout describes the ability of the typewriter to automatically calculate the placement of columns based on the longest entry.

Variable Line Spacing describes the variable vertical line spacing available, such as 1, 1½, 2, 2½, 3.

Automatic Relocate returns the print carrier to the point where typing was stopped for the operator to go back into the copy to make a correction.

Automatic Center indicates the ability of a typewriter to automatically center a word or text segment between margins or about a designated point.

Automatic Underline indicates the ability of the typewriter to automatically underline a defined segment of text as it is input.

COMMUNICATIONS

Availability lists whether communications is standard or optional or if it is to be announced.

Protocols and Speeds lists the protocols and speeds at which communications operates.

PERIPHERALS

External Storage Size/Type refers to the storage capacity in characters and the type of optional, external magnetic media used.

Add-On CRT refers to the size of the optional CRT, if available.

Others refers to all other peripheral devices which may be added to the electronic typewriter, such as an automatic sheet feeder or a sound enclosure.

Electronic Typewriters

BACKGROUND INFORMATION

Lists the **First Delivery Date** and **Country of Manufacture** of the typewriter.

PRICING AND TERMS

Gives some basic information on the **Purchase, Rental** and **Lease** pricing, **Maintenance,** and **Warranty and Support** for each typewriter.

REMARKS AND OTHER FEATURES

Provides additional information about the typewriter and also includes footnotes.

Electronic Typewriters

KEY TO HIGH-LEVEL ELECTRONIC TYPEWRITER TABLE ENTRIES

High-Level electronic typewriters generally incorporate advanced automated text entry/editing features including automatic character correction, phrase and format memory, document storage, text search, and forms storage with a total storage capacity of 4Kb plus. They are most often used to generate long documents that can be stored or revised.

Company and Model identifies the vendor/manufacturer and the specific electronic typewriter by name or by model number.

TYPEWRITER CONFIGURATION

Standard Configuration identifies the integral or individual standard components of the typewriter, including keyboard, printer, display, and magnetic media. Options are not included.

Typewriter Upgrade describes by what means the typewriter is upgraded to a higher level, including unit replacement, board replacement, or board addition.

Correction Buffer Size describes the number of characters temporarily stored for automatic character correction.

Phrase/Format Memory Size describes the character capacity of the memory space devoted to the storage of frequently used phrases, sentences, words, and format settings.

Text Memory Size describes the character capacity of the memory space devoted to the storage of text.

Memory Protect describes the means and length of time that the contents of memory are protected from being lost while the typewriter's power is turned off.

DISPLAY FEATURES

Display Type describes the type of display technology employed, such as gas plasma or vacuum fluorescent.

Display Capacity lists the number of characters displayed at one time.

Character Generation describes the size of the dot matrix used to create the characters on the display.

LED Indicators describes whether or not the typewriter is equipped with LED lights to signal the operator when certain features or error conditions are in effect.

PRINTER FEATURES

Printer Speed/Type identifies the speed of the print mechanism in characters per second and the type of print element technology employed, such as daisywheel or typeball.

Printer Buffer Memory describes the amount of temporary storage for text between the keyboard and print mechanism.

Character Pitch/Spacing identifies the pitch selections, or horizontal number of characters per inch, and/or the availability of proportional spaced fonts.

Writing Line Width indicates the width of the typing line in inches.

Carriage Paper Width indicates the maximum paper width in inches.

First Line Forms Advance indicates the ability of a printer with automatic insert or a forms feed device to automatically advance to the first typing line of a page.

End-of-Page Stop indicates the ability to halt the printer at the end of a page for paper handling or for a font change. Some electronic typewriters will not halt automatically, but they will provide a calibrated indicator device for page end decisions.

Justified Printout indicates the ability of the printer to produce text with a flush right margin.

Sub/Superscript Printout indicates the ability of the printer to print characters in line increments above or below the normal typing line.

Non-Adjust Printout describes the ability of the printer to print portions of text without margin or line length adjustment.

Bidirectional Printout indicates the ability of the printer to print from left to right and from right to left.

Delay Print Mode describes the ability to accept typed text while temporarily delaying printing. The operator can type and print character-by-character, word-by-word and/or line-by-line; printing is activated by the carriage return or spacebar.

Multi-Lingual Capability describes the ability to input and output foreign language text from the otherwise standard American keyboard and daisywheel or typeball.

AUTOMATED TEXT FEATURES

Default Format refers to the ability of the typewriter to automatically implement pre-set format information such as margin settings and tab positions unless otherwise specified by the operator.

Stored Multiple Formats defines the ability of the typewriter to store more than one set of format settings and to access the desired format on command.

Forms Input describes the ability of the typewriter to store the field positions of a prerecorded form for forms fill-in.

Stop Codes enable the operator to direct the printer to temporarily halt output for direct input from the keyboard for applications such as repetitive letters, or to change the typing element or ribbon.

Column Layout describes the ability of the typewriter to automatically calculate the placement of columns based on the longest entry.

Variable Line Spacing describes the variable vertical line spacing available, such as 1, 1½, 2, 2½, 3.

Automatic Relocate returns the print carrier to the point where typing was stopped for the operator to go back into the copy to make a correction.

Automatic Center indicates the ability of a typewriter to automatically center a word or text segment between margins or about a designated point.

Automatic Underline indicates the ability of a typewriter to automatically underline a defined segment of text as it is input.

Pagination is the ability of the typewriter to divide a document into pages of a specified length.

Document Assembly/Merge refers to the ability of a typewriter to assemble new documents from previously recorded text.

Text Search indicates the ability of the typewriter to search for a specific editing point within the text, such as by page or by text string.

Block Move/Copy refers to the ability of the typewriter to designate a block of text and move it within the document or to another document.

Electronic Typewriters

COMMUNICATIONS

Availability lists whether communications is standard or optional or if it is to be announced.

Protocols and Speeds lists the protocols and speeds at which communications operates.

PERIPHERALS

External Storage Size/Type refers to the storage capacity in characters and the type of optional, external magnetic media used.

Add-On CRT refers to the size of the optional CRT, if available.

Others refers to all other peripheral devices which may be added to the electronic typewriter, such as an automatic sheet feeder or a sound enclosure.

BACKGROUND INFORMATION

Lists the **First Delivery Date** and **Country of Manufacture** of the typewriter.

PRICING AND TERMS

Gives some basic information on the **Purchase, Rental** and **Lease** pricing, **Maintenance,** and **Warranty and Support** for each typewriter.

REMARKS AND OTHER FEATURES

Provides additional information about the typewriter and also includes footnotes. □

Electronic Typewriter Vendors

▷ **Adler Division**
A.R.B.M.
1600 Route 22
Union, NJ 07083 (201) 964-3200

Brother International Corporation
8 Corporate Place
Piscataway, NJ 08854 (201) 981-0300

BSI Office Equipment, Inc.
Suite 120
3361 Boyington Drive
Carrollton, TX 75066 (214) 960-6333, (800) 255-9266

Canon U.S.A., Inc.
One Canon Plaza
Lake Success, NY 11042 (516) 488-6700

Contitronix, Inc.
3848 Marquis Drive
Garland (Dallas), TX 75042 (214) 276-0555

Docutel-Olivetti Corporation of America
Suite 300
106 Decker Court
Irving, TX 75062 (214) 258-8610

Exxon Office Systems
777 Long Ridge Road
Stamford, CT 06902 (203) 329-5000

Facit, Inc.
235 Main Dunstable Road
Nashua, NH 03061 (603) 883-4157

Hermes Products. Inc.
1900 Lower Road
Linden, NJ 07036 (201) 574-0300

International Business Machines (IBM)
National Marketing Division
4111 Northside Parkway NW
Atlanta, GA 30327 (404) 238-2000

Olympia USA Inc
P.O. Box 22
Somerville, NJ 08876 (201) 722-7000

Panasonic
One Panasonic Way
Secaucus, NJ 07094 (201) 348-5200

Remington Rand Corporation
Princeton Forrestal Center
103 College Road East
Princeton, NJ 08540 (609) 799-8950

Royal Division
A.R.B.M.
1600 Route 22
Union, NJ 07083 (201) 964-3200

Sharp Electronics Corporation
10 Sharp Plaza
Paramus, NJ 07652 (201) 265-5600

Silver-Reed America, Inc.
19600 South Vermont Avenue
Torrance, CA 90502 (213) 516-7008, (800) 421-4191

Smith-Corona Consumer Products
Division of SCM Corporation
65 Locust Avenue
New Canaan, CT 06840 (203) 972-1471

Syntrex, Inc.
246 Industrial Way West
Eatontown, NJ 07724 (201) 542-1500

Teal Industries, Inc.
1741 Lomita Boulevard
Lomita, CA 90717 (213) 539-6040

TEC America, Inc.
19250 Van Ness Avenue
Torrance, CA 90501 (213) 320-8900

3M
225-5N 3M Center
St. Paul, Minnesota 55144 (612) 733-7837

Xerox Corporation
Office Systems
1341 West Mockingbird Lane
Dallas, TX 75247 (214) 689-6000□

Standard-Level Electronic Typewriters

COMPANY	Adler	Adler	Brother	Brother
MODEL	Satellite II[1]	1005	EP-20[1]	CE65
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer	Keyboard/printer	Keyboard/printer	Keyboard/printer
Correction Buffer Size	20 characters	132 characters	16 character	One line
Phrase/Format Memory Size	None	None	None	None
Memory Protect	None	Battery; 500 hrs	None	None
DISPLAY FEATURES				
Display Size/Type	None	None	16 characters; LCD	None
Character Generation	None	None	—	None
LED Indicators	None	Standard	None	Standard
PRINTER FEATURES				
Printer Speed/Type	10 cps daisywheel	17.5 cps daisywheel	11 cps heat transfer	13 cps daisywheel
Printer Buffer Memory	2-10 characters	16 characters	—	30 characters
Character Pitch/Spacing	10, 12	10, 12	10	10, 12, 15
Writing Line Width	11"[1]	13.2"	8.5"[1]	11.1"
Carriage Paper Width	13.4"	16.5"	9.0"	13.5"
Paper Insert/Eject	None	Standard	Standard	Standard
Bidirectional Printout	None	None	None	None
Impact Control	None	None	None	Standard
Ribbon Type	Correct., single-pass, multi-strike & fabric, blk	Correct, single-pass, multi-strike & fabric, blk.; blu, brn, correct.	Carbon	Correctable, multi-strike, carbon, fabric
AUTOMATED TEXT FEATURES				
Automatic Carriage Return	None	None	None	Standard
Automatic Word Wrap	None	None	None	None
Automatic Margins	Standard	Standard	Standard	Standard
Automatic Tab	Standard	Standard	Standard	Standard
Automatic Dec Tab	Standard	None	None	None
Automatic Relocate	Standard	None	None	Standard
Automatic Center	None	None	None	Standard
Automatic Underline	None	None	None	Standard
Line Spacing	1, 1½, 2	1, 1½, 2, 2½	1, 1½, 2	1, 1½, 2,
Index/Reverse Index	None	Standard	Standard	Standard
Half Space	None	Standard	None	Standard
Margin Scale	Standard	Standard	Standard	Standard
End of Page Indicator	Standard	Standard	Standard	Standard
Repeat Functions	Repeat key	Repeat key	All keys and functions	Standard
COMMUNICATIONS				
Availability	Optional	Optional	None	None
Protocols & Speeds	RS-232-C, IEEE 488, Cent.; 110-1200 baud	RS-232-C, IEEE 488, Cent., 110-9600 baud	None	None
BACKGROUND INFORMATION				
First Delivery Date	—	—	1982	1983
Country of Manufacture	West Germany	West Germany	Japan	Japan
Unit Dimensions (H x W x D)	5" x 17" x 14"	617/20"x221/5"x192/5"	2" x 9" x 12"	5½" x 17¼" x 15½"
Weight	18 lb, 25 lb w/case	42 lb	5 lb	17 lb
PRICING AND TERMS				
Purchase	$475	$960	$300	$599.95
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	Through dealer	Through dealer	Through dealer	Through dealer
Warranty & Support	90 days lbr, 6 mo pts	90 days lbr, 6 mo pts	90 days parts & labor	90 days lbr, 1 yr pts
REMARKS & OTHER FEATURES	Special characters printed via special access key. Carrying case is standard. Expansion via Adler Textriter. [1]Portable electronic.	Sheet feeder available. Expansion via Adler Textriter.	Operates on batteries or standard AC adapter. Built-in calculator. Standard Intl. keyboard. [1]Portable electronic.	Interface connectability. Vinyl dust cover included.

Standard-Level Electronic Typewriters

COMPANY	Brother	BSI	BSI	Canon
MODEL	EM-100	301	302	AP 200
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer	Keyboard/printer upgrade via PC board	Keybd./print./display upgrade via PC board	Keyboard/printer
Correction Buffer Size	500 characters	192 characters	192 characters	350 characters
Phrase/Format Memory Size	None	4 fmts./32 pos.[1]	4 fmts./32 pos.[1]	2 formats
Memory Protect	Battery; 72 hours	Battery; 72 hours	Battery; 72 hours	Battery
DISPLAY FEATURES				
Display Size/Type	None	None	16 char. vac. fluor.	None
Character Generation	None	None	5 x 12 dot matrix	None
LED Indicators	Standard	Standard	Standard	Standard
PRINTER FEATURES				
Printer Speed/Type	20 cps daisywheel	17 cps daisywheel	17 cps daisywheel	16 cps daisywheel
Printer Buffer Memory	32 characters	16 characters	16 characters	89 characters
Character Pitch/Spacing	6, 10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15
Writing Line Width	13.2"	15"	15"	13.2"
Carriage Paper Width	16.5"	16.7"	16.7"	16.5"
Paper Insert/Eject	Standard	Standard	Standard	Standard
Bidirectional Printout	Standard	None	None	None
Impact Control	Standard	Standard	Standard	Standard
Ribbon Type	Correctable, multi-strike, carbon, fabric	Cartridge	Cartridge	Correctable, single strike, multi-strike; blk, blu, brn
AUTOMATED TEXT FEATURES				
Automatic Carriage Return	Standard	Standard	Standard	Standard
Automatic Word Wrap	None	Standard	Standard	Standard
Automatic Margins	Standard	Standard	Standard	Standard
Automatic Tab	Standard	Standard	Standard	Standard
Automatic Dec Tab	Standard	Standard	Standard	None
Automatic Relocate	Standard	None	Standard	Standard
Automatic Center	Standard	Standard	Standard	Standard
Automatic Underline	Standard	None	None	Standard
Line Spacing	1, 1½, 2, 3	1, 1½, 2, 3	1, 1½, 2, 3	1, 1½, 2
Index/Reverse Index	Standard	Standard	Standard	None
Half Space	None	Standard	Standard	Standard
Margin Scale	Standard	Standard	Standard	Standard
End of Page Indicator	Standard	None	None	Standard
Repeat Functions	Standard	None	None	Standard
COMMUNICATIONS				
Availability	Standard	Optional	Optional	None
Protocols & Speeds	300—1200 baud	RS-232-C, 300-2400 baud	RS-232-C, 300-2400 baud	None
BACKGROUND INFORMATION				
First Delivery Date	1983	September 1982	January 1983	July 1983
Country of Manufacture	Japan	Holland	Holland	Japan
Unit Dimensions (H x W x D)	7¾" x 20 4/5" x 19"	9 1/10" x 24 4/5" x 20½"	9 1/10" x 24 4/5" x 20½"	6 7/10"x20½"x19 3/10"
Weight	35.2 lb	35.3 lbs	35.3 lbs	39 lb
PRICING AND TERMS				
Purchase	$1,290	$1,150	$995	$695
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	Through dealer	Through dealer	Through dealer	Through dealer
Warranty & Support	90 days parts & labor	90 days parts & labor	90 days parts & labor	90 days parts & labor
REMARKS & OTHER FEATURES		Multilingual, bold printing. [1]Forms and doc. format layout. .	Multilingual, bold printing. [1]Forms and doc. format layout.	Automatic indent, automatic pitch selector, lift-out platen.

Standard-Level Electronic Typewriters

COMPANY	Canon	Contitronix	Docutel-Olivetti	Docutel-Olivetti
MODEL	AP 300	CI 1200	Praxis 35[1]	Praxis 40[1]
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer	Keyboard/printer/ optional display	Keyboard/printer	Keyboard/printer
Correction Buffer Size	350 characters	500 chars. multi-line	10 characters	10 characters
Phrase/Format Memory Size	2 formats	None	None	None
Memory Protect	Battery; 10,000 hours	Battery; 375 days	None	None
DISPLAY FEATURES				
Display Size/Type	15 characters; LCD	20 or 40 character[1]	None	None
Character Generation	5 x 11 dot matrix	5 x 12 dot matrix	None	None
LED Indicators	Standard	Standard	None	None
PRINTER FEATURES				
Printer Speed/Type	16 cps daisywheel	40 cps daisywheel	12 cps daisywheel	12 cps daisywheel
Printer Buffer Memory	89 characters	32 characters	None	None
Character Pitch/Spacing	10, 12, 15	6, 10, 12, 15, PS	10, 12, 15	10, 12, 15
Writing Line Width	13.2"	13.2"	11"[1]	11"[1]
Carriage Paper Width	16.5"	17"	12"	13"
Paper Insert/Eject	Standard	Standard	Standard	Standard
Bidirectional Printout	None	None	None	None
Impact Control	Standard	Standard	Standard	Standard
Ribbon Type	Correctable, single strike. multi-strike; blk, blu, brn	Carbon, fabric, correctable	Correctable, fabric, carbon, lift-off, cover-up	Correctable, fabric, carbon
AUTOMATED TEXT FEATURES				
Automatic Carriage Return	Standard	Standard	Standard	Standard
Automatic Word Wrap	Standard	None	None	None
Automatic Margins	Standard	Standard	Standard	Standard
Automatic Tab	Standard	Standard	Standard	Standard
Automatic Dec Tab	Standard	Standard	Standard	Standard
Automatic Relocate	Standard	Standard	Standard	Standard
Automatic Center	Standard	Standard	Standard	Standard
Automatic Underline	Standard	Standard	Standard	Standard
Line Spacing	1, 1½, 2	1, 1½, 2, 3	Standard	Standard
Index/Reverse Index	None	Standard	Index only	Index only
Half Space	Standard	Standard	Standard	Standard
Margin Scale	Standard	Standard	Standard	Standard
End of Page Indicator	Standard	Standard	Standard	Standard
Repeat Functions	Standard	All keys	All keys	All keys
COMMUNICATIONS				
Availability	None	Optional	None	To be announced
Protocols & Speeds	None	RS-232-C 110-9600 baud	None	To be announced
BACKGROUND INFORMATION				
First Delivery Date	March 1983	April 1984	1981	1982
Country of Manufacture	Japan	Switzerland	Singapore	Singapore
Unit Dimensions (H x W x D)	6 7/10"x20½"x19 3/10"	7 1/3" x 22" x 20 4/5"	4 3/10" x 16½"	13½" x 18 7/10"
Weight	39 lb	42 lb	17.3 lb w/case	19.4 lb
PRICING AND TERMS				
Purchase	$795	$1,095	$545	$610
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	Through dealer	Through dealer	Through dealer	Through dealer
Warranty & Support	90 days parts & labor	90 days parts & labor	90 days parts	90 days parts
REMARKS & OTHER FEATURES	Automatic indent, justified printout, automatic pitch selector, display commands, liftout platen.	Upgradable to CI 1220, CI 1900, CI 2000. Line & form drawing, automatic indent, automatic column layout. [1]Vacuum fluorescent.	Para. indent, multi-lingual, tabs w/vertical line, 3 formats w/8Kb option. [1]Portable electronic.	Para. indent, multi-lingual, tabs w/vertical line, acoustical sound hood. [1]Portable electronic.

Standard-Level Electronic Typewriters

COMPANY	Docutel-Olivetti	Docutel-Olivetti	Exxon	Facit
MODEL	Praxis 45D[1]	ET 111	Exxon 210	7800[1]
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer/display	Keyboard/printer	Keyboard/printer	Keyboard/printer
Correction Buffer Size	One line	500 characters	500 characters	10 characters
Phrase/Format Memory Size	8K option	256 format steps	None	None
Memory Protect	Battery optional	Battery; 1 month	Battery; 10,000 hours	None
DISPLAY FEATURES				
Display Size/Type	16 character	None	None	None
Character Generation	5 x 12 dot matrix	None	None	None
LED Indicators	Standard	Standard	Standard	None
PRINTER FEATURES				
Printer Speed/Type	12 cps daisywheel	15 cps daisywheel	20 cps daisywheel	12 cps daisywheel
Printer Buffer Memory	One line	None	64 characters	None
Character Pitch/Spacing	10, 12, 15	10, 12, 15, PS	10, 12, 15, PS	10, 12
Writing Line Width	11"[1]	13.2"	13.2"	11.5"
Carriage Paper Width	13"	17"	17"	13"
Paper Insert/Eject	Standard	Standard	Standard; automatic	None
Bidirectional Printout	Standard	None	Standard	None
Impact Control	Standard	Standard	Standard	Standard
Ribbon Type	Correctable, fabric, carbon	Carbon, fabric, correctable carbon	Correct, multi-strike, cover-up, lift-off, fabric	Carbon film with lift-off, fabric
AUTOMATED TEXT FEATURES				
Automatic Carriage Return	Standard	Standard	Standard	None
Automatic Word Wrap	Standard	None	None	None
Automatic Margins	Standard	Standard	Standard	Standard
Automatic Tab	Standard	Standard	Standard	Standard
Automatic Dec Tab	Standard	Standard	Standard	None
Automatic Relocate	Standard	Standard	Standard	None
Automatic Center	Standard	Standard	Standard & flush right	None
Automatic Underline	Standard	Standard	Standard[1]	None
Line Spacing	Standard	1, 1½, 2, 2½, 3	1, 1½, 2, 3	1, 1½, 2
Index/Reverse Index	Index only	Standard	Standard	Index only
Half Space	Standard	Standard	Incremental space/bksp	Standard
Margin Scale	Standard	Standard	Standard	Standard
End of Page Indicator	Standard	None	Standard	None
Repeat Functions	All keys	Repeat key	Repeat key	Repeat key
COMMUNICATIONS				
Availability	To be announced	To be announced	To be announced	None
Protocols & Speeds	To be announced	To be announced	To be announced	None
BACKGROUND INFORMATION				
First Delivery Date	1982	1983	June 1983	Fourth quarter 1982
Country of Manufacture	Singapore	Italy	Japan	Japan
Unit Dimensions (H x W x D)	13½" x 18 7/10"	6 3/5"x23 1/3"x18 1/5"	8" x 22" x 20"	47/10"x171/10"x133/5
Weight	19.4 lb	28.2 lb	37 lb	19.9 lb
PRICING AND TERMS				
Purchase	$775	$895	$950	$545
Rental	Through dealer	Through dealer	Not available	Through dealer
Lease	Through dealer	Through dealer	Third party	Through dealer
Maintenance	Through dealer	Through dealer	$148/yr	Through dealer
Warranty & Support	90 days parts	90 days parts & labor	90 days parts & labor	90 days parts & labor
REMARKS & OTHER FEATURES	Para. indent, multi-lingual, acoustical sound hood, tabs w/ vertical line. [1]Portable electronic.	Automatic vertical & horizontal line drawing, paragraph & line indentation, automatic insert, bold print, self-diagnostic, add-on CRT.	Column layout, sub and superscript, 112-character printwheel, multi-lingual keyboard.	Dual keyboard with access to additional characters and symbols. Express backspace. 100 char./daisywheel. [1]Compact electronic.

Standard-Level Electronic Typewriters

COMPANY	Facit	Facit	Hermes	Hermes
MODEL	8000	8001	Hermes 16	Hermes 21
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer	Keyboard/printer	Keyboard/printer	Keyboard/printer
Correction Buffer Size	150 characters	300 chars, multi-line	10 characters	One line
Phrase/Format Memory Size	3 mems. for tab stops	3 mems. for tab stops	None	None
Memory Protect	Battery; 30+ days	Battery; 30 days	None	None
DISPLAY FEATURES				
Display Size/Type	None	None	None	None
Character Generation	None	None	None	None
LED Indicators	Standard	Standard	None	Standard
PRINTER FEATURES				
Printer Speed/Type	16.5 cps daisywheel	16.5 cps daisywheel	10 cps daisywheel	16-18 cps daisywheel
Printer Buffer Memory	16 characters	16 characters	None	256 characters
Character Pitch/Spacing	10, 12, 15, PS	10, 12, 15, PS	10, 12	10, 12, 15
Writing Line Width	13"	13" or 17"	11"	13.4"
Carriage Paper Width	15.35"	15.35" or 19.25"	13.4"	17.2"
Paper Insert/Eject	Standard	Standard	None	None
Bidirectional Printout	None	None	None	None
Impact Control	Standard	Standard	Standard	Standard
Ribbon Type	Correct blk, blu, brn, red, grn; fabric; multi-strike	Correctable, fabric, multi-strike; blk, red, brn, blu, grn	Correctable or fabric	Correctable or fabric cartridge
AUTOMATED TEXT FEATURES				
Automatic Carriage Return	Standard	Standard	Standard	Standard
Automatic Word Wrap	None	None	None	None
Automatic Margins	Standard	Standard	Standard	Standard
Automatic Tab	Standard[1]	Standard	Standard	Standard
Automatic Dec Tab	Standard	Standard	None	Standard
Automatic Relocate	None	Standard	Standard	Standard
Automatic Center	None	Standard	None	Standard
Automatic Underline	Standard	Standard	Standard	None
Line Spacing	1, 1½, 2, 2½, 3	1, 1½, 2, 2½, 3	1, 1½, 2	1, 1½, 2, 2½, 3
Index/Reverse Index	Standard	Standard	Standard	None
Half Space	Standard	Standard	Standard	Standard
Margin Scale	Standard	Standard	Standard	Standard
End of Page Indicator	Optional	Optional	None	None
Repeat Functions	—[2]	Space, backsp/cor, return, index/rev index, u/line, ., =, -, X, x,*	Repeat key	Repeat key
COMMUNICATIONS				
Availability	Optional	Receive only	None	Optional
Protocols & Speeds	RS-232-C, 100 baud	—	None	Async., ASCII, 110-4800 baud
BACKGROUND INFORMATION				
First Delivery Date	June 1981	First quarter 1983	—	—
Country of Manufacture	Sweden	Sweden	Japan	Switzerland
Unit Dimensions (H x W x D)	8" x 21 4/5" x 20 2/5"	7" x 21 4/5" x 20 2/5"	5¼" x 18½" x 15½"	23-7/10x9-2/5x19-7/10
Weight	42 lb	40.9 lb	19 lb	36.5 lb
PRICING AND TERMS				
Purchase	$1,280	$1,145	$445	$1,095
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	Through dealer	Through dealer	Through dealer	Through dealer
Warranty & Support	90 days parts & labor	90 days parts & labor	90 days parts & labor	90 days
REMARKS & OTHER FEATURES	Express or word-by-word backspace. Code key for 13 extra symbols/chars. [1]26 tab stops plus 16 in tab 1, 8 in tab 2, 8 in tab 3. [2]Spacebar, backsp correct, carrier ret, index/rv index, period, equal, hyphen, X, x, underline, validation, asterisk.	150-character printwheel, code key for 13 extra symbols/chars, express & word-by-word backsp, automatic bold print.	Optional carrying case.	Special characters via keyboard II key.

Standard-Level Electronic Typewriters

COMPANY	Silver-Reed	Smith-Corona	Smith-Corona	Smith-Corona
MODEL	EX-55	Ultrasonic II	Ultrasonic III	Ultrasonic I Plus
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer	Keyboard/printer	Keyboard/printer	Keyboard/printer
Correction Buffer Size	240 characters	30 characters	157 characters	16 characters
Phrase/Format Memory Size	None	1 format	1 format	1 format
Memory Protect	Battery; 30-50 days	None	None	None
DISPLAY FEATURES				
Display Size/Type	None	None	None	None
Character Generation	None	None	None	None
LED Indicators	Standard	None	None	None
PRINTER FEATURES				
Printer Speed/Type	20 cps daisywheel	10 cps daisywheel	10 cps daisywheel	10 cps daisywheel
Printer Buffer Memory	16 characters	18 characters	20 characters	6 characters
Character Pitch/Spacing	10, 12, 15, PS	10, 12	10, 12, 15	10, 12
Writing Line Width	13.2"	10.5"	10.5"	10.5"
Carriage Paper Width	17"	13"	13"	13"
Paper Insert/Eject	Standard	None	None	None
Bidirectional Printout	None	None	None	None
Impact Control	Standard; 3 positions	None	None	None
Ribbon Type	Cartridge correctable	Standard; 5 settings Lift-rite, carbon film, multi-strike, nylon; 4 colors	Standard; 5 settings Lift-rite, carbon film, multi-strike, nylon; 4 colors	Standard; 5 settings Lift-rite, carbon film, multi-strike, nylon; 4 colors
AUTOMATED TEXT FEATURES				
Automatic Carriage Return	Standard; 2 levels	Standard	Standard	Standard
Automatic Word Wrap	Standard	None	None	None
Automatic Margins	Standard	Standard	Standard	Standard
Automatic Tab	Standard	Standard	Standard	Standard
Automatic Dec Tab	Standard	None	None	Standard
Automatic Relocate	Standard	Standard	Standard	Standard
Automatic Center	Standard	None	Standard	Standard
Automatic Underline	Standard	None	None	Standard
Line Spacing	1, 1½, 2	1, 1½, 2	1, 1½, 2	1, 1½, 2
Index/Reverse Index	Standard	Forward index only	Forward index only	Forward index only
Half Space	Increment backspace	None	None	None
Margin Scale	Standard	Standard	Standard	Standard
End of Page Indicator	Standard	Standard	Standard	Standard
Repeat Functions	Repeat key	Return, index, tab clr, backsp, sp, correct u/line, .,-,X,x.	Return, index, tab clr, backsp, space, correct, u/line .,-,X,x.	Return, index, tab clr, backsp, space, correct u/line, .,-,X,x.
COMMUNICATIONS				
Availability	Optional	None	Optional	None
Protocols & Speeds	RS-232-C, 150-9600 bps	None	RS-232-C serial, Centronics parallel	None
BACKGROUND INFORMATION				
First Delivery Date	October 1981	October 1983	October 1983	June 1983
Country of Manufacture	Japan	USA	USA	USA
Unit Dimensions (H x W x D)	7 2/5"x233/25"x192/5"	6" x 16½" x 15 1/5"	6" x 16½" x 15½"	6" x 16 1/5" x 15 1/5"
Weight	42.9 lb	22 lb	22 lb	22 lb
PRICING AND TERMS				
Purchase	$995	$445	$535	$595
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	Through dealer	Through dealer	Through dealer	Through dealer
Warranty & Support	90 days, MSR support	90 days parts & labor	90 days parts & labor	90 days parts & labor
REMARKS & OTHER FEATURES	Special characters via code key. Paragraph indent. Print/no print feature.			

Standard-Level Electronic Typewriters

COMPANY	Smith-Corona	Smith-Corona	Smith-Corona	Syntrex
MODEL	Ultrasonic III Messenger	Typetronic	Typetronic II	Aries I
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer	Keyboard/printer	Keyboard/printer	Keyboard/printer
Correction Buffer Size	157 characters	10 characters	Full line	198 characters
Phrase/Format Memory Size	1 format	1 format	1 format	None
Memory Protect	None	None	None	None
DISPLAY FEATURES				
Display Size/Type	None	None	None	None
Character Generation	None	None	None	None
LED Indicators	None	None	None	Standard
PRINTER FEATURES				
Printer Speed/Type	10 cps daisywheel	12 cps daisywheel	12 cps daisywheel	17 cps daisywheel
Printer Buffer Memory	12 characters	6 characters	6 characters	256 characters
Character Pitch/Spacing	10, 12, 15	10, 12	10, 12	10, 12, 15
Writing Line Width	10.5"	10.5"	10.5"	13.2"
Carriage Paper Width	13"	13.1"	13.1"	17"
Paper Insert/Eject	None	None	None	None
Bidirectional Printout	None	None	None	Standard
Impact Control	Standard; 5 settings	Standard; 5 positions	Standard; 5 positions	Standard
Ribbon Type	Lift-rite, carbon film, multi-strike, nylon; 4 colors	Carbon film lift-off, multi-str. car. film, fabric, red/gr./br./blu.	Carbon film lift-off, multi-str. car. film, fabric, red/gr./br./blu.	Carbon, fabric, correctable, various colors
AUTOMATED TEXT FEATURES				
Automatic Carriage Return	Standard	None	Standard	Standard
Automatic Word Wrap	None	None	None	None
Automatic Margins	Standard	Standard	Standard	Standard
Automatic Tab	Standard	Standard	Standard	Standard
Automatic Dec Tab	Standard	None	Standard	Standard
Automatic Relocate	Standard	None	Standard	Standard
Automatic Center	Standard	None	Standard	Standard
Automatic Underline	Standard	None	Standard	Standard
Line Spacing	1, 1½, 2	1, 1½, 2	1, 1½, 2	1, 1½, 2, 2½, 3
Index/Reverse Index	Forward index only	Index only	Index only	None
Half Space	None	Standard	None	Standard
Margin Scale	Standard	Standard	Standard	Standard
End of Page Indicator	Standard	Standard	Standard	None
Repeat Functions	Return, index, tab clr, backsp, space, correct u/line,.,-,X,x.	Period, "x" key, hyphen, underscore, car. ret., ind., bksp., cor.	Period, "x" key, hyphen, u/score, car. ret., ind., bksp., cor.	Repeat key
COMMUNICATIONS				
Availability	Optional	None	None	None
Protocols & Speeds	RS-232 serial. Centronics Parallel	None	None	None
BACKGROUND INFORMATION				
First Delivery Date	October 1983	1980	June 1982	March 1981
Country of Manufacture	USA	USA	USA	Italy (by Doc.-Olivetti)
Unit Dimensions (H x W x D)	6" x 16 1/5" x 15 1/5"	6½" x 19½" x 16¾"	6½" x 19½" x 16¾"	9 1/5" x 24" x 19 2/5"
Weight	22 lb	22.7 lb	22.7 lb	41.5 lb
PRICING AND TERMS				
Purchase	$635	$695	$795	$1,390
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	Through dealer	Through dealer	Through dealer	$25/month
Warranty & Support	90 days parts & labor	90 days parts & labor	90 days parts & labor	90 days parts & labor
REMARKS & OTHER FEATURES		Accepts bursts up to 800 wpm.	Accepts bursts up to 800 wpm. Auto. center over tabs, flush right at margin or tabs.	Vertical line drawing; multi-lingual. Adapter to hook into Syntrex Aquarius and Libra—$450.

Standard-Level Electronic Typewriters

COMPANY	Teal Industries	Teal Industries	TEC America	TEC America
MODEL	250	270	TW-1000	TW-2000
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer	Keyboard/printer	Keyboard/printer	Keyboard/printer
Correction Buffer Size	10 characters	1 line	10 characters	256 characters
Phrase/Format Memory Size	None	None	None	None
Memory Protect	None	None	None	Battery; 30 days
DISPLAY FEATURES				
Display Size/Type	None	20 chars., 2 lines; LCD	None	None
Character Generation	None	None	None	None
LED Indicators	Standard	Standard	Standard	Standard
PRINTER FEATURES				
Printer Speed/Type	10 cps daisywheel	15 cps daisywheel	12 cps daisywheel	18 cps
Printer Buffer Memory	6 characters	1 line	12 characters	32 characters
Character Pitch/Spacing	10, 12	10, 12, 15	10, 12	10, 12, 15, PS
Writing Line Width	11"	12"	11.5"	13.6"
Carriage Paper Width	13.4"	13"	13"	16.5"
Paper Insert/Eject	None	None	None	Standard
Bidirectional Printout	None	None	None	None
Impact Control	None	Standard; 3 settings	Standard	Standard
Ribbon Type	Correctable	Correctable	Single-strike carbon, multi-strike carbon, fabric	Single-strike carbon, multi-strike carbon, fabric
AUTOMATED TEXT FEATURES				
Automatic Carriage Return	None	Standard	None	Standard
Automatic Word Wrap	None	None	None	None
Automatic Margins	Standard	Standard	None	Standard
Automatic Tab	Standard	Standard	None	Standard
Automatic Dec Tab	None	Standard	None	Standard
Automatic Relocate	Standard	Standard	None	Standard
Automatic Center	None	Standard	None	Standard
Automatic Underline	Standard	Standard	None	Standard
Line Spacing	1, 1½, 2	1, 1½, 2	0, 1, 1½, 2	1, 1½, 2, 2½
Index/Reverse Index	Standard	Standard	None	Standard
Half Space	Standard	None	Standard	Standard
Margin Scale	Standard	Standard	Standard	Standard
End of Page Indicator	None	None	None	Standard
Repeat Functions	Standard	Repeat key	Standard	Standard
COMMUNICATIONS				
Availability	None	Optional; Centronics	Optional	Optional
Protocols & Speeds	None	RS-232	—	RS-232 or Parallel
BACKGROUND INFORMATION				
First Delivery Date	October 1983	December 1983	April 1983	Fourth quarter 1983
Country of Manufacture	Japan	Japan	Japan	Japan
Unit Dimensions (H x W x D)	5¼" x 17" x 15¾"	6¾" x 19¾" x 17¾"	4 4/5" x 17 3/5" x 14"	7 2/5" x 22⅓" x 19 ⅗
Weight	19 lb	22 lb	19.8 lb	39.6 lb
PRICING AND TERMS				
Purchase	$495	$745	$545	$895
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	To be announced	Through dealer	Through dealer	Through dealer
Warranty & Support	90 days parts & labor	90 days parts & labor	90 days parts & labor	90 days parts & labor
REMARKS & OTHER FEATURES			Multi-lingual capability.	Multi-lingual capability.

Standard-Level Electronic Typewriters

COMPANY	3M			
MODEL	200			
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer			
Correction Buffer Size	One line			
Phrase/Format Memory Size	None			
Memory Protect	None			
DISPLAY FEATURES				
Display Size/Type	None			
Character Generation	None			
LED Indicators	Standard			
PRINTER FEATURES				
Printer Speed/Type	16 cps daisywheel			
Printer Buffer Memory	One line			
Character Pitch/Spacing	10, 12, 15			
Writing Line Width	13.2"			
Carriage Paper Width	17"			
Paper Insert/Eject	None			
Bidirectional Printout	None			
Impact Control	Standard			
Ribbon Type	Carbon, fabric, correctable, various colors			
AUTOMATED TEXT FEATURES				
Automatic Carriage Return	Standard			
Automatic Word Wrap	None			
Automatic Margins	Standard			
Automatic Tab	Standard			
Automatic Dec Tab	Standard			
Automatic Relocate	Standard			
Automatic Center	Standard			
Automatic Underline	None			
Line Spacing	1, 1½, 2, 2½, 3			
Index/Reverse Index	None			
Half Space	Standard			
Margin Scale	Standard			
End of Page Indicator	None			
Repeat Functions	Repeat key			
COMMUNICATIONS				
Availability	Optional			
Protocols & Speeds	Async. TTY; 110, 300, 1200 baud			
BACKGROUND INFORMATION				
First Delivery Date	1982			
Country of Manufacture	Italy			
Unit Dimensions (H x W x D)	9 1/5" x 24" x 19 2/5"			
Weight	41.5 lb			
PRICING AND TERMS				
Purchase	$1,195			
Rental	Through dealer			
Lease	Through dealer			
Maintenance	$149/year			
Warranty & Support	90 days parts			
REMARKS & OTHER FEATURES	Reverse print feature Operator training on-site or classroom; first operator no charge.			

Mid-Level Electronic Typewriters

COMPANY	Adler	Canon	Canon	Contitronix
MODEL	1011	AP 350	AP 400	CI 1220
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer	Keybd/printer/display	Keyboard/printer	Keybd/ptr/opt display
Typewriter Upgrade	PC board replacement	None	Unit replacement	Software memory chips[1]
Correction Buffer Size	730 characters	350 characters	512 characters	500 characters, mulit-
Phrase/Format Memory Size	2600 characters	8Kb; 10 formats	4-page format	4Kb
Memory Protect	Battery; 500 hrs	Lithium battery; 5 yrs	Battery; 10000 hrs	Battery; 4 months
DISPLAY FEATURES				
Display Type	None	LCD	None	Vacuum fluorescent
Display Capacity	None	15 characters; 1 line	None	20 or 40 characters
Character Generation	None	5 x 11 dot matrix	None	5 x 12 dot matrix
LED Indicators	Standard	Standard	Standard	Standard
PRINTER FEATURES				
Printer Speed/Type	17.5 cps daisywheel	16 cps daisywheel	20 cps daisywheel	40 cps daisywheel
Printer Buffer Memory	16 characters	89 characters	60 characters	32 characters
Character Pitch/Spacing	10, 12, 15, PS	10, 12, 15	10, 12, 15, PS	6, 10, 12, 15, PS
Writing Line Width	13.2″	13.2″	13.2″	13.2″
Carriage Paper Width	16.5″	16.5″	16.5″	17″
First Line Forms Advance	Standard	Standard	Standard	Standard; programmable
End-of-Page-Stop	None	Standard	Standard	Standard
Justified Printout	Standard	Standard	None	Standard
Sub/Superscript Printout	Standard	None	Standard	Standard
Non-Adjust Printout	None	Standard	Standard	Standard
Bidirectional Printout	None	None	None	None
Delay Print Mode	Standard	Standard	Standard	Standard
Multi-Lingual Capability	Standard	Standard, via daisywheel	Via daisywheel	Via daisywheel
AUTOMATED TEXT FEATURES				
Default Format	Standard	Standard	Standard	Standard
Stored Multiple Formats	None	Standard	Standard	Standard
Forms Input	None	Standard	Standard	Standard
Stop Codes	None	Standard	None	Standard
Column Layout	None	None	Standard	Standard
Variable Line Spacing	1, 1½, 2, 2½	Standard	1, 1½, 2, 3	1, 1½, 2, 3
Automatic Relocate	Standard	Standard	Standard	Standard
Automatic Center	Standard	Standard	Standard	Standard
Automatic Underline	Standard	Standard	Standard	Standard
COMMUNICATIONS				
Availability	Optional	Optional	Optional	Optional
Protocols & Speeds	RS-232-C, IEEE 488, Cent.; 110-1200 baud	RS-232-C	RS-232-C	RS-232-C, 110-9600 baud
PERIPHERALS				
External Storage Size/Type	Adler Textriter[1]	Diskette; tape cassette[1]	None	None
Add-On CRT	12″ CRT	To be announced	To be announced	None
Others	Forms feed, sheet feeder	None	None	None
BACKGROUND INFORMATION				
First Delivery Date	December 1982	July 1983	January 1982	April 1984
Country of Manufacture	West Germany	Japan	Japan	Switzerland
PRICING AND TERMS				
Purchase	$1,175	$945	$1,095	$1,295
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	Through dealer	Through dealer	Through dealer	Through dealer
Warranty & Support	90 days lbr, 6 mo pts	90 days parts & labor	90 days parts & labor	90 days parts & labor
REMARKS & OTHER FEATURES	Automatic indent. [1]16Kb or 64Kb internal; 32Kb working memory and 160Kb or 320Kb diskettes, single or dual drives.	Automatic indent. automatic pitch selector, display commands, lift-out platen. [1]320/640Kb mini floppy diskette.	Vertical/horizontal one word line-framing, bold printing, end of ribbon signal, automatic pitch selector.	Line and form drawing, automatic indent, global search & replace. [1]To CI 1900 or CI 2000.

Mid-Level Electronic Typewriters

COMPANY	Docutel-Olivetti	Facit	Facit	Facit
MODEL	ET 115	8100	8101	8105 KSR
TYPEWRITER CONFIGURATION				
Standard Configuration	Keybd/printer/display	Keybd/printer/display	Keybd/printer/display	Keyboard/printer
Typewriter Upgrade	None	Unit replacement	Unit replacement	Unit replacement
Correction Buffer Size	500 characters	300 characters	350 characters	1000 characters
Phrase/Format Memory Size	1835 characters	1000 characters	2000 characters	10 fmts., no phrase
Memory Protect	Battery/ 1 month	Battery; 30+ days	Battery; 3 years	Battery; 3 years
DISPLAY FEATURES				
Display Type	LCD	Vacuum fluorescent	Vacuum fluorescent	None
Display Capacity	24 characters	40 characters	40 characters	None
Character Generation	16 x 160 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	None
LED Indicators	Standard	Standard	Standard	Standard
PRINTER FEATURES				
Printer Speed/Type	15 cps daisywheel	16.5 cps daisywheel	16.5 cps daisywheel	22 cps daisywheel
Printer Buffer Memory	None	16 characters	16 characters	16 characters
Character Pitch/Spacing	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS
Writing Line Width	13.2"	13"	13" or 17"	13" or 17"
Carriage Paper Width	17"	15.35"	15.35" or 19.25"	15.35" or 19.25"
First Line Forms Advance	Standard	Standard	Standard	Standard
End-of-Page-Stop	Standard	Optional	Optional	Optional
Justified Printout	None	Standard	Standard	None
Sub/Superscript Printout	Standard	Standard	Standard	Standard
Non-Adjust Printout	Standard	Standard	Standard	Standard
Bidirectional Printout	None	None	None	None
Delay Print Mode	Standard	Standard	Standard	Standard
Multi-Lingual Capability	Standard	Standard	Standard	Standard
AUTOMATED TEXT FEATURES				
Default Format	None	Standard	Standard	Standard
Stored Multiple Formats	Standard	Standard (9)	Standard (9)	Standard (10)
Forms Input	Standard	Standard	Standard	None
Stop Codes	None	Standard	Standard	None
Column Layout	Standard	Standard	Standard	Standard
Variable Line Spacing	1, 1½, 2, 2½, 3	1, 1½, 2, 2½, 3	1, 1½, 2, 2½, 3	1, 1½, 2, 2½, 3
Automatic Relocate	Standard	Standard	Standard	Standard
Automatic Center	Standard	Standard	Standard	Standard
Automatic Underline	Standard	Standard (entire line or word-by-word)	Standard; cont. or word-by-word	Standard
COMMUNICATIONS				
Availability	To be announced	Optional	Optional	Standard
Protocols & Speeds	To be announced	RS-232-C, 110-9600 bps	RS-232-C, 110-9600 bps	RS-232-C, 110-9600 bps
PERIPHERALS				
External Storage Size/Type	To be announced	Facit DTC, dual disk	Facit DTC, dual disk	Facit DTC, dual disk
Add-On CRT	To be announced	15" CRT, 2 mini disk	15" CRT (Facit DTC)	15" CRT, 2 mini disk
Others	None	Tractor feed	Tractor feed	Tractor feed
BACKGROUND INFORMATION				
First Delivery Date	1983	December 1981	First quarter 1983	First quarter 1983
Country of Manufacture	Italy	Sweden	Sweden	Sweden
PRICING AND TERMS				
Purchase	$1,075	$1,275	$1,398	$1,495
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	Through dealer	Through dealer	Through dealer	Through dealer
Warranty & Support	90 days parts & labor	90 days parts & labor	90 days parts & labor	90 days parts & labor
REMARKS & OTHER FEATURES	Electronic platen for paper handling, bold & reverse print, high capacity ribbon cartridge, center/insert, decimal tabulation.	Auto carrier return, auto dec tab, 105 char daisywheel, auto paper insert/eject, code key for 13 extra symbols & foreign keyboard.	Automatic bold, return, dec tab; 105 char. daisywheel, 2,000-char. receive buffer. Data terminal/printer/typewriter.	Auto bold print, auto carrier return, auto dec tab, 105 char daisywheel, receive buffer = 2,000 char. Data terminal/printer/typewriter.

Mid-Level Electronic Typewriters

COMPANY	Olympia	Panasonic	Remington-Rand	Royal
MODEL	Professional	KX-E701	RE 220	5011
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer	Keyboard/printer	Keyboard/printer	Keyboard/printer
Typewriter Upgrade	Unit replacement	Unit replacement	Unit replacement	PC board replacement
Correction Buffer Size	One line	500 characters	One line	730 characters
Phrase/Format Memory Size	4000 characters	1000 characters	1000 characters	2600 characters
Memory Protect	21 days	10000 hrs	Battery; 500 hrs	Battery; 500 hrs
DISPLAY FEATURES				
Display Type	None	None	None	None
Display Capacity	None	None	None	None
Character Generation	None	None	None	None
LED Indicators	Standard	Standard	Standard	Standard
PRINTER FEATURES				
Printer Speed/Type	17.5 cps daisywheel	20 cps daisywheel	17.5 cps daisywheel	17.5 cps daisywheel
Printer Buffer Memory	8 characters	256 characters	8 characters	16 characters
Character Pitch/Spacing	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS
Writing Line Width	14.2"	13.2"	14.2"	13.2"
Carriage Paper Width	17.2"	15.5"	17"	16.5"
First Line Forms Advance	Standard	Standard; programmable	Standard	Standard
End-of-Page-Stop	None	None	None	None
Justified Printout	Standard	None	Standard	Standard
Sub/Superscript Printout	None	Standard	None	Standard
Non-Adjust Printout	None	Standard	None	None
Bidirectional Printout	None	Standard	None	Standard
Delay Print Mode	None	Standard	None	Standard
Multi-Lingual Capability	Standard	Standard	Standard	Standard
AUTOMATED TEXT FEATURES				
Default Format	Standard	None	Standard	Standard
Stored Multiple Formats	Standard	Standard	Standard	None
Forms Input	Standard	None	Standard	None
Stop Codes	Standard	None	None	None
Column Layout	None	Standard	Standard	None
Variable Line Spacing	1, 1½, 2, 3	1, 1½, 2, 3	1, 1½, 2	1, 1½, 2, 2½
Automatic Relocate	Standard	Standard	Standard	Standard
Automatic Center	Standard	Standard	None	Standard
Automatic Underline	Standard	Standard	Standard	Standard
COMMUNICATIONS				
Availability	None	Optional	None	Optional
Protocols & Speeds	None	RS-232, X on/X off, DTR, ETX/ACK, 110-2400 baud	None	RS-232-C, IEEE 488, Cent.; 110-1200 baud
PERIPHERALS				
External Storage Size/Type	Via EX 100 or ETX	None	Via Remriter[1]	Royal Textriter
Add-On CRT	Via EX 100 or ETX	None	Via Remriter	12" CRT
Others	None	Tractor feed	None	Forms feed, sheet feeder[1]
BACKGROUND INFORMATION				
First Delivery Date	1983	November 1983	September 1981	December 1982
Country of Manufacture	West Germany	Japan	West Germany (by Olympia)	West Germany
PRICING AND TERMS				
Purchase	$1,249	$995	$1,310	$1,175
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	$105/yr.	Through dealer	Through dealer	Through dealer
Warranty & Support	90 days parts & labor	1 year parts	90 days parts & labor	90 days lbr, 6 mo pts
REMARKS & OTHER FEATURES	Auto bold, expand, and double print. Auto indent. Position code for forms fill-in.	Automatic indent, bold, expand print, return, decimal tab, repeat key, index/reverse index, express key; copy/control, no print key, character counter, remaining memory.	Automatic bold and double print. Automatic indent. Mail merge capabilities. [1]Single or dual disk drive.	Automatic indent. [1]16Kb or 64Kb internal; 32Kb working memory and 160Kb or 320Kb diskettes, single or dual drives.

Mid-Level Electronic Typewriters

COMPANY	Sharp	Smith-Corona	3M	3M
MODEL	ZX-505	Typetronic III	400	450
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer	Keyboard/printer	Keybd/printer/display	Keybd/printer/display
Typewriter Upgrade	Additional board	None	Unit replacement	5Kb cartridge
Correction Buffer Size	400 chars. or 6 lines	Full line	Two lines	500 characters
Phrase/Format Memory Size	1024 characters[1]	6000 characters	830 characters	620 characters
Memory Protect	30 days	Battery; 10 days	Battery	Battery
DISPLAY FEATURES				
Display Type	Vacuum fluorescent	None	Vacuum fluorescent	LCD
Display Capacity	32 characters	None	20 characters	26 characters
Character Generation	5 x 12 dot matrix	None	5 x 12 dot matrix	16 x 160 dot matrix
LED Indicators	Standard; 27 total	None	Standard	Standard
PRINTER FEATURES				
Printer Speed/Type	20 cps daisywheel	13 cps daisywheel	18 cps daisywheel	16 cps daisywheel
Printer Buffer Memory	—	256 characters		500 characters
Character Pitch/Spacing	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS
Writing Line Width	13.2″	11.5″	13.2″	13.2″
Carriage Paper Width	17″	15″	17″	17″
First Line Forms Advance	Standard	Std.; top of form mode	Standard	Standard
End-of-Page-Stop	Standard	Standard	Standard	Standard
Justified Printout	Standard	None	Standard	Standard
Sub/Superscript Printout	None	Standard	None	Standard
Non-Adjust Printout	None	Standard; will adjust	Standard	Standard
Bidirectional Printout	None	Standard	None	None
Delay Print Mode	Standard	None[1]	Standard	Standard
Multi-Lingual Capability	Standard	Standard	Standard; 6 languages	Standard
AUTOMATED TEXT FEATURES				
Default Format	None	Standard	None	Standard
Stored Multiple Formats	Standard	Standard	Standard	Standard
Forms Input	Standard; 10 fmts	Standard	Standard	Standard
Stop Codes	Standard	Standard	None	Standard; level 1
Column Layout	Standard	None	Standard	Standard
Variable Line Spacing	1, 1½, 2, 2½	1, 1½, 2	1, 1½, 2, 2½, 3	1, 1½, 2, 2½, 3
Automatic Relocate	Standard	Standard	Standard	Standard
Automatic Center	Standard	Standard	Standard	Standard
Automatic Underline	Standard; continuous and word	Standard	Standard	Standard
COMMUNICATIONS				
Availability	None	Optional	None	None
Protocols & Speeds	None	RS-232-C serial, Centronics parallel	None	None
PERIPHERALS				
External Storage Size/Type	None	None	None	5Kb cartridge option
Add-On CRT	None	None	None	None
Others	None	None	None	None
BACKGROUND INFORMATION				
First Delivery Date	January 1983	January 1984	1982	1983
Country of Manufacture	Japan	Japan	Italy	Italy
PRICING AND TERMS				
Purchase	$1,295	$995	$1,795	$1,395
Rental	Through dealer	Through dealer	Through dealer	Not available
Lease	Through dealer	Through dealer	Through dealer	Up to 36 months
Maintenance	Through dealer	Through dealer	$195/year	$289/yr
Warranty & Support	90 days parts & labor	90 days parts & labor	90 days parts & labor	90 days parts & labor
REMARKS & OTHER FEATURES	Bold and expand. print, legal and bullet symbols, insert/delete keys. [1]26 registers.	[1]Stop code for temporary pause.	Reverse print, automatic page numbering. Operator training on-site or classroom, first operator no charge.	

Mid-Level Electronic Typewriters

COMPANY	Xerox			
MODEL	610 Memorywriter			
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer			
Typewriter Upgrade	Additional PC boards			
Correction Buffer Size	250 characters			
Phrase/Format Memory Size	946 characters			
Memory Protect	Battery; 120 hrs			
DISPLAY FEATURES				
Display Type	None			
Display Capacity	None			
Character Generation	None			
LED Indicators	Standard			
PRINTER FEATURES				
Printer Speed/Type	20 cps daisywheel			
Printer Buffer Memory	16 characters			
Character Pitch/Spacing	10, 12, 15, PS			
Writing Line Width	13.2″			
Carriage Paper Width	15.2″			
First Line Forms Advance	None			
End-of-Page-Stop	None			
Justified Printout	None			
Sub/Superscript Printout	Standard			
Non-Adjust Printout	Standard			
Bidirectional Printout	None			
Delay Print Mode	Standard			
Multi-Lingual Capability	Standard			
AUTOMATED TEXT FEATURES				
Default Format	Standard			
Stored Multiple Formats	Standard			
Forms Input	None			
Stop Codes	None			
Column Layout	Standard			
Variable Line Spacing	1, 1½, 2, 3			
Automatic Relocate	Standard			
Automatic Center	Standard			
Automatic Underline	Standard			
COMMUNICATIONS				
Availability	Optional			
Protocols & Speeds	TTY, 110-1200 baud			
PERIPHERALS				
External Storage Size/Type	None			
Add-On CRT	None			
Others	None			
BACKGROUND INFORMATION				
First Delivery Date	May 1982			
Country of Manufacture	USA			
PRICING AND TERMS				
Purchase	$1,195			
Rental	None			
Lease	Equity lease avail.			
Maintenance	Full service $216/yr. Parts only $108/yr.			
Warranty & Support	90 days parts & labor			
REMARKS & OTHER FEATURES	Bold printing, gang tab set and clear, auto. directory listing. Upgradable to 615, 620, 625, 627, or 630. 610T model Tempest approved.			

High-Level Electronic Typewriters

COMPANY	Adler	Adler	Adler	Brother
MODEL	1030 8Kb/16Kb	1040 16Kb/32Kb	1041 16Kb	CE70
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer	Printer with detached keyboard/display	Printer with detached kybd/dsply & d/drive	Keyboard/printer/display
Typewriter Upgrade	16Kb memory	32Kb memory		None
Correction Buffer Size	Up to 4000 chars.	Up to 4000 chars.	Up to 4000 characters	500 characters
Phrase/Format Memory Size	4.5Kb (8Kb)/12Kb (16Kb)	12Kb (16Kb)/27.5Kb (32Kb)	6Kb internal/300Kb disk	8Kb
Text Memory Size	2Kb (8Kb)/2Kb (16Kb)	2Kb (16Kb)/2Kb (32Kb)	4Kb working	10 storage locations
Memory Protect	Up to 500 hours Battery; 500 hrs	Battery; 500 hours	Battery; 500 hrs	Battery; 72 hours
DISPLAY FEATURES				
Display Type	LED	Fluorescent	Fluorescent	LCD
Display Capacity	3 characters	40 characters	40 characters	20 characters
Character Generation	—	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
LED Indicators	Standard	Standard	Standard	Standard
PRINTER FEATURES				
Printer Speed/Type	17.5 cps	17.5 cps	17.5 cps	13 cps daisywheel
Printer Buffer Memory	16 characters	32 characters	32 characters	32 characters
Character Pitch/Spacing	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS
Writing Line Width	13.2"	13.2"	13.2"	11.0"
Carriage Paper Width	16.5"	16.5"	16.5"	13.5"
First Line Forms Advance	Standard	Standard	Standard	None
End-of-Page-Stop	None	None	None	Standard
Justified Printout	Standard	Standard	Standard	Standard
Sub/Superscript Printout	Standard	Standard	Standard	None
Non-Adjust Printout	None	None	None	None
Bidirectional Printout	None	None	Standard	None
Delay Print Mode	Standard	Standard	Standard	Standard
Multi-Lingual Capability	Standard	Standard	Standard	
AUTOMATED TEXT FEATURES				
Default Format	Standard	Standard	Standard	None
Stored Multiple Formats	Standard	Standard	Standard	None
Forms Input	Standard	Standard	Standard	None
Stop Codes	Standard	Standard	None	Standard
Column Layout	None	None	None	Standard
Variable Line Spacing	1, 1½, 2, 2½	1, 1½, 2, 2½	1, 1½, 2, 2½	1, 1½, 2, 3
Automatic Relocate	Standard	Standard	Standard	Standard
Automatic Center	Standard	Standard	Standard	Standard
Automatic Underline	Standard	Standard	Standard	Standard
Pagination	None	None	None	None
Document Assembly/Merge	None	None	None	None
Text Search	None	Global search	Global search	Standard
Block Move/Copy	None	None	None	None
COMMUNICATIONS				
Availability	Optional	Optional	Optional	Standard
Protocols & Speeds	RS-232-C, IEEE 488, Centronix, TTY Telex[1]	RS-232-C IEEE 488, Cent, Teletex TTY Telex[1]	RS-232-C, Cent, IEEE 488, Teletex, TTY Telex[1]	300-1200 baud
PERIPHERALS				
External Storage Size/Type	See below[2]	See below[2]	See below[2]	Mini disk; 8Kb per side
Add-On CRT	12" CRT	None	None	Optional
Others	Forms feed, sheet feeder	Forms feed, sheet feeder	Forms feed, sheet feeder	None
BACKGROUND INFORMATION				
First Delivery Date	June 1981	October 1982	October 1983	1983
Country of Manufacture	West Germany	West Germany	West Germany	Japan
PRICING AND TERMS				
Purchase	$1,575 (8Kb) $1,825 (16Kb)	$2,375	$3,595	$799.95
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	Through dealer	Through dealer	Through dealer	Through dealer
Warranty & Support	90 days lbr, 6 mo pts	90 days lbr, 6 mo pts	90 days lbr, 6 mo pts	90 days parts & labor
REMARKS & OTHER FEATURES	[1]AT 110-1200 baud. [2]MCM stringy floppy cassette; Adler Textriter, single or dual drive.	[1]At 110-1200 baud. [2]MCM stringy floppy cassette; 5¼" double sided, dual density disk drive; 300 Kb per disk.	[1]At 110-1200 baud. [2]5¼" double sided, dual density disk drive; 300Kb per disk.	Interface connectability.

High-Level Electronic Typewriters

COMPANY	Brother	Canon	Canon	Contitronix
MODEL	EM-200	AP 500	AP 550	CI 1900
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer/display	Keyboard/printer/display	Keyboard/printer/display	Keyboard/printer/display
Typewriter Upgrade	None	Board & chip; 2Kb incr.	Board replacement	Software & board[1]
Correction Buffer Size	500 characters	512 characters	500 characters	500 char, multi-line
Phrase/Format Memory Size	None	2Kb to 32Kb[1]	16Kb or 64Kb	8Kb to 40Kb[2]
Text Memory Size	8Kb	2Kb to 32Kb[1]	16Kb or 64Kb	8Kb to 40Kb[2]
Memory Protect	Battery; 72 hours	Battery; 10000 hrs	Battery; 10,000 hours	Battery; 3 months
DISPLAY FEATURES				
Display Type	LCD	Vacuum fluorescent	Fluorescent	Vacuum fluorescent
Display Capacity	16 characters	20 characters	20 characters	20 or 40 characters
Character Generation	5 x 7 dot matrix	5 x 12 dot matrix	5 x 12 dot matrix	5 x 12 dot matrix
LED Indicators	Standard	Standard	Standard	Standard
PRINTER FEATURES				
Printer Speed/Type	20 cps daisywheel	20 cps daisywheel	20 cps daisywheel	40 cps daisywheel
Printer Buffer Memory	32 characters	590 bytes	60 chars (590 bytes)	32 characters
Character Pitch/Spacing	6, 10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS[1]	6, 10, 12, 15, PS
Writing Line Width	13.2"	13.2"	13.2"	13.2"
Carriage Paper Width	16.5"	16.5"	16.5"	17"
First Line Forms Advance	Standard	Standard	Standard	Standard; programmable
End-of-Page-Stop	Standard	Standard	Standard	Standard
Justified Printout	Standard	Standard	Standard	Standard
Sub/Superscript Printout	Standard	Standard	Standard	Standard
Non-Adjust Printout	None	Standard	Standard	Standard
Bidirectional Printout	Standard	None	None	None
Delay Print Mode	None	Standard	Standard	Standard
Multi-Lingual Capability	None	Via daisywheel	Via daisywheel	Via daisywheel
AUTOMATED TEXT FEATURES				
Default Format	None	Standard	Standard	Standard
Stored Multiple Formats	None	Standard	Standard	Standard
Forms Input	None	Standard	Standard	Standard
Stop Codes	Standard	Standard	Standard	Standard
Column Layout	Standard	Standard	Standard	Standard
Variable Line Spacing	1, 1½, 2, 3	1, 1½, 2, 3	Standard	1, 1½, 2, 3
Automatic Relocate	Standard	Standard	Standard	Standard
Automatic Center	Standard	Standard	Standard	Standard
Automatic Underline	Standard	Standard	Standard	Standard
Pagination	None	Standard	Standard	None
Document Assembly/Merge	None	Standard	Standard	Standard
Text Search	Standard	Global search	Standard	Standard
Block Move/Copy	None	Copy	Standard	Standard
COMMUNICATIONS				
Availability	Standard	Optional	Optional	Optional
Protocols & Speeds	300-1200 baud	RS-232-C	RS-232-C	RS-232-C
PERIPHERALS				
External Storage Size/Type	Mini diskette; 8Kb	Mini disk; tape cass.[2]	Disk drive; tape cass.[2]	None
Add-On CRT	Optional	To be announced	None	None
Others	Tractor feeder, cut sheet feeder	None	None	None
BACKGROUND INFORMATION				
First Delivery Date	1983	January 1982	November 1983	April 1984
Country of Manufacture	Japan	Japan	Japan	Switzerland
PRICING AND TERMS				
Purchase	$1,890.00	$1,695	$1,995	$1,795
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	Through dealer	Through dealer	Through dealer	Through dealer
Warranty & Support	90 days parts & labor	90 days parts & labor	90 days parts & labor	90 days parts & labor
REMARKS & OTHER FEATURES		Contains AP400 features plus stores and recalls text by title. [1]Phrase and text storage. [2]Minidisk 320/640Kb	[1]Auto or selectable. [2]320/640 Kb mini floppy diskette.	Line & form drawing, automatic indent, document editing using display & cursor control, global search & replace, document titles. [1]To CI 2000. [2]Phrase and text memory.

High-Level Electronic Typewriters

COMPANY	Contitronix	Contitronix	Docutel-Olivetti	Docutel-Olivetti
MODEL	CI 2000	Eight-K	ET-225	ET-351
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer/display	Keyboard/printer/display	Keyboard/printer/display	Keyboard/printer/display/diskette
Typewriter Upgrade	Software & board	Software & board	Additional PC board	Additional PC board
Correction Buffer Size	500 char, multi-line	One line	500 characters	396 characters
Phrase/Format Memory Size	16Kb to 40Kb[1]	8Kb to 40Kb[1]	620 characters	830 characters
Text Memory Size	16Kb to 40Kb[1]	8Kb to 40Kb[1]	5Kb	64Kb
Memory Protect	Battery; 1½ months	Battery; 6 hours	Battery; 30 days	Battery; 30 days Disk protect
DISPLAY FEATURES				
Display Type	Vacuum fluorescent	Vacuum fluorescent	LCD	Vacuum fluorescent
Display Capacity	20 or 40 characters	2 or 20 characters	26 characters	40 characters
Character Generation	5 x 12 dot matrix	5 x 12 dot matrix	16 x 160 dot matrix	5 x 12 dot matrix
LED Indicators	Standard	Standard	Standard	Standard
PRINTER FEATURES				
Printer Speed/Type	40 cps daisywheel	10 cps; single element	16 cps daisywheel	20 cps daisywheel
Printer Buffer Memory	32 characters	8 characters	256 characters	256 characters
Character Pitch/Spacing	6, 10, 12, 15, PS	10, 12, PS	10, 12, 15, PS	10, 12, 15, PS
Writing Line Width	13.2″	12.8″	13.2″	13.2″
Carriage Paper Width	17″	15″	17″	17″
First Line Forms Advance	Standard; programmable	Standard; programmable	Standard	Standard
End-of-Page-Stop	Standard	Standard	Standard	Standard
Justified Printout	Standard	Optional	Standard	Standard
Sub/Superscript Printout	Standard	None	Standard	Standard
Non-Adjust Printout	Standard	Standard	Standard	Standard
Bidirectional Printout	None	None	None	Standard
Delay Print Mode	Standard	None	Standard	Standard
Multi-Lingual Capability	Via daisywheel	Spanish; ball element	Standard	Standard
AUTOMATED TEXT FEATURES			None	None
Default Format	Standard	Standard	None	None
Stored Multiple Formats	Standard	Standard	Standard	Standard
Forms Input	Standard	Optional	Standard	Standard
Stop Codes	Standard	Standard	None	Standard
Column Layout	Standard	Standard	Standard	Standard
Variable Line Spacing	1, 1½, 2, 3	1, 1½, 2	1, 1½, 2, 2½, 3	1, 1½, 2, 2½, 3
Automatic Relocate	Standard	Standard	Standard	None
Automatic Center	Standard	Standard	Standard	Standard
Automatic Underline	Standard	Standard	Standard	Standard
Pagination	Standard	None	Standard	Standard
Document Assembly/Merge	Standard	Standard	None	Standard
Text Search	Standard	Search & replace	18 char string	121 ch. string, C, L, P
Block Move/Copy	Standard	Standard	None	None
COMMUNICATIONS				
Availability	Optional	Optional	To be announced	Optional
Protocols & Speeds	RS-232-C	RS-232-C		Asynch. ASCII (75-9600 baud)
PERIPHERALS				
External Storage Size/Type	Plug-in cassette	Mini-diskette drive	5K cassette	5¼″ mini-floppy (64K)
Add-On CRT	None	None	Optional	None
Others	Plug-in software modules	Paper tape in TTY format	None	None
BACKGROUND INFORMATION				
First Delivery Date	April 1984	October 1980	November 1982	1981
Country of Manufacture	Switzerland	USA	Italy	Italy
PRICING AND TERMS				
Purchase	$2,095	$1,795	$1,395	$3,185 (single) $3,485 (dual)
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	Through dealer	Through dealer	To be announced	Through dealer
Warranty & Support REMARKS & OTHER FEATURES	90 days parts & labor Line & form control, automatic indent, document editing using display & cursor control, global search & replace, document titles. [1]Phrase and text memory.	90 days parts & labor Auto CALC math option: four function, square root, percent for row & column. [1]Phrase and text memory.	90 days parts & labor Upgrade to 8Kb, 16Kb, or 32Kb with wp capabilities. Automatic clock/dater, decimal tabulation, directory, vertical line drawing, bold and reverse print.	90 days parts & labor Global search & re-place, operator memos, qualified mailings, bold and reverse print, directory, sheet or sprocket feed.

High-Level Electronic Typewriters

COMPANY	Exxon	Exxon	Exxon	Exxon
MODEL	120	120E	140	140D
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer/display	Keyboard/printer/display/intnl mini-disk	Keyboard/printer/display/single mini-disk	Keyboard/printer/display/dual mini-disk
Typewriter Upgrade	Module upgradable	Module upgradable	Module upgradable	Module upgradable
Correction Buffer Size	One line	One line	One line	One line
Phrase/Format Memory Size	1000 characters	1000 characters	1000 characters	1000 characters
Text Memory Size	10K characters	10K ch. plus 60K ch.[1]	10K ch. plus 60K ch.[1]	10K ch. plus 120K ch.[1]
Memory Protect	None	None	None	None
DISPLAY FEATURES				
Display Type	Optional LED	Optional LED	Optional LED	Optional LED
Display Capacity	24 characters	24 characters	24 characters	24 characters
Character Generation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
LED Indicators	Standard	Standard	Standard	Standard
PRINTER FEATURES				
Printer Speed/Type	24 cps daisywheel	24 cps daisywheel	24 cps daisywheel	24 cps daisywheel
Printer Buffer Memory	256 characters	256 characters	256 characters	256 characters
Character Pitch/Spacing	10, 12, PS	10, 12, PS	10, 12, PS	10, 12, PS
Writing Line Width	13.2"	13.2"	13.2"	13.2"
Carriage Paper Width	15.25"	15.25"	15.25"	15.25"
First Line Forms Advance	None	None	None	None
End-of-Page-Stop	Standard	Standard	Standard	Standard
Justified Printout	Standard	Standard	Standard	Standard
Sub/Superscript Printout	Standard	Standard	Standard	Standard
Non-Adjust Printout	Standard	Standard	Standard	Standard
Bidirectional Printout	Standard	Standard	Standard	Standard
Delay Print Mode	Standard	Standard	Standard	Standard
Multi-Lingual Capability	None	None	None	None
AUTOMATED TEXT FEATURES				
Default Format	Standard	Standard	Standard	Standard
Stored Multiple Formats	Standard	Standard	Standard	Standard
Forms Input	None	None	None	None
Stop Codes	None	None	None	None
Column Layout	Standard	Standard	Standard	Standard
Variable Line Spacing	1, 1½, 2	1, 1½, 2	1, 1½, 2	1, 1½, 2
Automatic Relocate	None	None	None	None
Automatic Center	Standard	Standard	Standard	Standard
Automatic Underline	Standard	Standard	Standard	Standard
Pagination	Standard	Standard	Standard	Standard
Document Assembly/Merge	Standard	Standard	Standard	Standard
Text Search	By c, w, l, s, para[1]	By c, w, l, s, para[2]	By c, w, l, s, para[2]	By c, w, l, s, para[2]
Block Move/Copy	Standard	Standard	Standard	Standard
COMMUNICATIONS				
Availability	Optional	Optional	Optional	Optional
Protocols & Speeds	Exxon to Exxon, asynch. 1200 baud[2]	Exxon to Exxon, asynch. 1200 baud[3]	Exxon to Exxon, asynch. 1200 baud[3]	Exxon to Exxon, asynch. 1200 baud[3]
PERIPHERALS				
External Storage Size/Type	60Kb mini-diskette	60Kb mini-diskette	60Kb mini-diskette	60Kb mini-diskette
Add-On CRT	None	None	None	None
Others	None	None	None	None
BACKGROUND INFORMATION				
First Delivery Date	1978	1978	1978	1978
Country of Manufacture	USA	USA	USA	USA
PRICING AND TERMS				
Purchase	$2,350	$3,500	$4,950	$5,950
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	$345/year	$528/year	$738/year	$912/year
Warranty & Support REMARKS & OTHER FEATURES	90 days Can also be used as an output printer. [1]By page and character string. [2]And TWX/Telex 110-300 baud.	90 days Can also be used as an output printer. [1]Per sealed disk. [2]By page and character string. [3]And TWX/Telex 110-300 baud.	90 days Can also be used as an output printer. [1]Per mini-diskette. [2]By page and character string. [3]And TWX/Telex 110-300 baud.	90 days Can also be used as an output printer. [1]60K/mini-diskette. [2]By page and character string. [3]And TWX/Telex 110-300 baud.

High-Level Electronic Typewriters

COMPANY	Facit	Facit	Facit	Hermes
MODEL	8110	8111	8121	Top-tronic 42
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer/display	Keyboard/printer/display	Keyboard/printer/display	Keyboard/printer/display
Typewriter Upgrade	Unit replacement	PC board replacement	Unit replacement	Unit replacement
Correction Buffer Size	350 characters	500 characters	500 characters	222 characters
Phrase/Format Memory Size	1000 characters	2000 characters	40,000 characters	8Kb phrase & text
Text Memory Size	5000 characters	8000 or 16,000 chars.	40,000 characters	8Kb phrase & text[1]
Memory Protect	Battery; 30 days	Battery; 1 month	Battery; 1 month	Battery
DISPLAY FEATURES				
Display Type	Vacuum fluorescent	Vacuum fluorescent	Vacuum fluorescent	LED
Display Capacity	40 characters	40 characters	40 characters	20 characters
Character Generation	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix	5 x 7 dot matrix
LED Indicators	Standard	Standard	Standard	Standard
PRINTER FEATURES				
Printer Speed/Type	16.5 cps daisywheel	16.5 cps daisywheel	22 cps daisywheel	16 cps daisywheel
Printer Buffer Memory	16 characters	16 characters	16 characters	222 characters
Character Pitch/Spacing	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS	6, 10, 12, PS, mini PS
Writing Line Width	13″	13″ or 17″	13″ or 17″	13.5″
Carriage Paper Width	15.35″	15.35″ or 19.25″	15.35″ or 19.25″	17″
First Line Forms Advance	Standard	Standard	Standard	Standard
End-of-Page-Stop	Optional	Optional	Optional	None
Justified Printout	Standard	Standard	Standard	Standard
Sub/Superscript Printout	Standard	Standard	Standard	Standard
Non-Adjust Printout	Standard	Standard	Standard	Standard
Bidirectional Printout	None	None	None	None
Delay Print Mode	Standard	Standard	Standard	Standard
Multi-Lingual Capability	Standard	Standard	Standard	Via daisywheel
AUTOMATED TEXT FEATURES				
Default Format	Standard	Standard	Standard	None
Stored Multiple Formats	Standard (9)	Standard (10)[1]	Standard (10)[1]	Up to 10
Forms Input	Standard	Standard	Standard	Standard
Stop Codes	Standard	Standard	Standard	Standard
Column Layout	Standard	Standard	Standard	Standard
Variable Line Spacing	1, 1½, 2, 2½, 3	1, 1½, 2, 2½, 3	1, 1½, 2, 2½, 3	1, 1½, 2, 2½
Automatic Relocate	Standard	Standard	Standard	Standard
Automatic Center	Standard	Standard	Standard	Standard
Automatic Underline	Standard	Standard	Standard; line/wd-by-wd	Standard
Pagination	None	None	None	Standard
Document Assembly/Merge	Standard	Standard	Standard	None
Text Search	None	None	20-character string	Standard
Block Move/Copy	None	None	None	None
COMMUNICATIONS				
Availability	Optional	Optional	Optional	Optional
Protocols & Speeds	RS-232-C, 110-9600 bps	RS-232-C, 110-9600 bps	RS-232-C, 110-9600 bps	RS-232-C, ASCII
PERIPHERALS				
External Storage Size/Type	Facit DTC, dual disk	Micro floppy unit[2]	Micro floppy unit	None
Add-On CRT	15″ CRT, 2 mini disk	15″ CRT (Facit DTC)	15″ CRT (Facit DTC)	None
Others	Tractor feed	Tractor feed	Tractor feed, cut sheet feed	None
BACKGROUND INFORMATION				
First Delivery Date	May 1982	First quarter 1983	Last quarter 1983	1981
Country of Manufacture	Sweden	Sweden	Sweden	Switzerland
PRICING AND TERMS				
Purchase	$1,625	$1,945 (10Kb) $2,195 (18Kb)	$2,695	$1,795
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	Through dealer	Through dealer	Through dealer	Through dealer
Warranty & Support	90 days parts & labor	90 days parts & labor	90 days parts & labor	90 days parts & labor
REMARKS & OTHER FEATURES	Auto. carrier return, auto. decimal tabulation, 105 char./daisywheel, auto paper inject.	Automatic bold, return, dec tab; 105-char. printwheel. Can change American kybd to other national kybd. [1]With auto paper inject. [2]8Kb or 16Kb.	Automatic bold, return, decimal tab; printout of memory; 105-character printwheel. [1]With auto paper inject.	[1]Upgradable to 16Kb Bold printing.

High-Level Electronic Typewriters

COMPANY	Hermes	IBM	IBM	IBM
MODEL	Top-tronic 51	Electronic 65	Electronic 85	Memory Typewriter 50/100
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer display/micro disk	Keyboard/printer	Keyboard/printer	Keyboard/printer
Typewriter Upgrade	Unit replacement	Boards; to IBM 85	None	To 400Kb
Correction Buffer Size	222 characters	One line	One line	None
Phrase/Format Memory Size	16Kb phrase & text	7400 characters[1]	15,500 characters[1]	4K characters
Text Memory Size	16Kb phrase & text	7400 characters[1]	15,500 characters[1]	200-400Kb internal belt
Memory Protect	Battery	Battery backup	Battery backup	Standard
DISPLAY FEATURES				
Display Type	LED	None	None	None
Display Capacity	20 characters	None	None	None
Character Generation	5 x 7 dot matrix	None	None	None
LED Indicators	Standard	Standard	Standard	None
PRINTER FEATURES				
Printer Speed/Type	20 cps daisywheel	15.5 cps typeball	15.5 cps typeball	15.5 cps typeball
Printer Buffer Memory	222 characters	—	—	—
Character Pitch/Spacing	6, 10, 12, PS, mini PS	10, 12, PSN, PS	10, 12, PSN, PS	10, 12
Writing Line Width	13.5"	13"	13"	12.5"
Carriage Paper Width	17"	15.5"	15.5"	15"
First Line Forms Advance	Standard	Standard	Standard	None
End-of-Page-Stop	Standard	Standard	Standard	Standard
Justified Printout	Standard	Standard	Standard	None
Sub/Superscript Printout	Standard	Subscript only	Subscript only	Optional
Non-Adjust Printout	Standard	Standard	Standard	Standard
Bidirectional Printout	None	None	None	None
Delay Print Mode	Standard	None	None	None
Multi-Lingual Capability	Via daisywheel	Via typeballs	Via typeballs	Via typeballs
AUTOMATED TEXT FEATURES				
Default Format	Standard	Tabs only	Tabs only	None
Stored Multiple Formats	Up to 10	Standard, 4 stored	Standard; 4 stored	None
Forms Input	Standard	Standard	Standard	None
Stop Codes	Standard	Standard	Standard	None
Column Layout	Standard	Standard	Standard	Standard
Variable Line Spacing	1, 1½, 2, 2½, 3	1, 1½, 2, 3	1, 1½, 2, 3	Standard
Automatic Relocate	Standard	Standard	Standard	Standard
Automatic Center	Standard	Standard	Standard	Standard
Automatic Underline	Standard	Standard	Standard	Standard
Pagination	Standard	None	None	None
Document Assembly/Merge	Standard	Manual	Standard	None
Text Search	Standard	None	Standard	None
Block Move/Copy	Levels 5 & 6 only	None	None	None
COMMUNICATIONS				
Availability	Optional	None	Optional[2]	None
Protocols & Speeds	RS-232-C, ASCII, 50-19,200 baud	None	Teletype 33/35/43 KSR async. 110-1200 bps	None
PERIPHERALS				
External Storage Size/Type	2¼" micro diskette[1]	None	None	Plug. loop memory
Add-On CRT	Optional	None	None	None
Others	Sheet feeder, tape punch	None	None	None
BACKGROUND INFORMATION				
First Delivery Date	1982	1982	1982	1974-50, 1977-100
Country of Manufacture	Switzerland	USA	USA	USA
PRICING AND TERMS				
Purchase	$2,995	$1,495	$1,950	$3,850—50 $4,550—100
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer[2]	Through dealer[3]	Through dealer
Maintenance	Through dealer	Contract available	Contract available	Contract available
Warranty & Support REMARKS & OTHER FEATURES	90 days parts & labor Bold printing, mail merge, vertical line, math pack. [1]8Kb, 16Kb, 32Kb	90 days parts & labor Automatic indent [1]Phrase and text memory. [2]Public sector and education markets only.	90 days parts & labor Automatic indent [1]Phrase and text storage. [2]Communicates with other IBM 85s, the IBM Displaywriter and PC, a remote host computer, or a public data network. [3]Public sector and education markets only.	90 days parts & labor

High-Level Electronic Typewriters

COMPANY	Olympia	Olympia	Olympia	Panasonic
MODEL	ES 110	Supertype 2	Disque	KX-E708
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer	Keyboard/printer/ display	Keyboard/printer/ display/disk	Keyboard/printer/ display
Typewriter Upgrade	Unit replacement	Unit replacement	None	32Kb micro cassette unit
Correction Buffer Size	256 characters	500 characters	256 characters	500 characters
Phrase/Format Memory Size	7.5K characters[1]	16,000 characters[1]	16Kb (text & phrase)	8Kb to 32Kb text/phrase
Text Memory Size	7.5K characters[1]	16,000 characters[1]	16Kb (text & phrase)	8Kb to 32Kb text/phrase
Memory Protect	90 days	21 days	Battery; 6 months	10,000 hours
DISPLAY FEATURES				
Display Type	None	LED	Green fluorescent	Vacuum fluorescent
Display Capacity	None	20 characters	20 characters	40 characters
Character Generation	None	—	5 x 7 dot matrix	5 x 12 dot matrix
LED Indicators	Standard	Standard	Standard	Standard
PRINTER FEATURES				
Printer Speed/Type	17.5 cps daisywheel	17.5 cps daisywheel	20 cps daisywheel	20 cps daisywheel
Printer Buffer Memory	32 characters	16 characters	32 characters	256 characters
Character Pitch/Spacing	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS
Writing Line Width	14.2″	14.2″	14.2″	13.2″
Carriage Paper Width	17.2″	17.2″	17.2″	15.5″
First Line Forms Advance	Standard	Standard[2]	Standard	Standard; programmable
End-of-Page-Stop	Standard	Standard	Standard	Standard
Justified Printout	Standard	Standard	Standard	Standard
Sub/Superscript Printout	Standard	Standard	Standard	Standard
Non-Adjust Printout	None	Standard	Standard	Standard
Bidirectional Printout	None	Standard	None	Standard
Delay Print Mode	None	Standard	Standard	Standard
Multi-Lingual Capability	Standard	Standard	Standard	Standard
AUTOMATED TEXT FEATURES				
Default Format	Standard	Standard	Standard	None
Stored Multiple Formats	Standard	Standard	Standard	Standard
Forms Input	Standard	Standard	Standard	None
Stop Codes	Standard	Standard	Standard	Standard
Column Layout	None	None	None	Standard
Variable Line Spacing	1, 1½, 2	1, 1½, 2, 3	1, 1½, 2, 3	1, 1½, 2, 3
Automatic Relocate	Standard	Standard	Standard	Standard
Automatic Center	Standard	Standard	Standard	Standard
Automatic Underline	Standard	Standard	Standard	Standard
Pagination	None	None	Standard	Standard
Document Assembly/Merge	None	None	Standard	Standard
Text Search	Standard	Standard	Standard	Standard
Block Move/Copy	None	None	Standard	Standard
COMMUNICATIONS				
Availability	None	Optional	Optional	Optional
Protocols & Speeds	None	RS-232	RS-232, Teletex	RS-232-C, X on/X off, DTR, ETX/ACK, 110-2400
PERIPHERALS				
External Storage Size/Type	Cassette	None	8Kb micro diskette[1]	12Kb to 64Kb micro cass
Add-On CRT	None	To be announced	None	None
Others	None	None	Sheet feeder, forms tractor	Tractor feed
BACKGROUND INFORMATION				
First Delivery Date	November 1981	1983	1983	November 1983
Country of Manufacture	West Germany	West Germany	West Germany	Japan
PRICING AND TERMS				
Purchase	$2,495	$1,899	$2,499	$1,495
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	$200/yr	$135/yr	$200/yr	Through dealer
Warranty & Support REMARKS & OTHER FEATURES	90 days parts & labor Auto bold, expand, and double print. [1]Phrase and text memory.	90 days parts & labor Bold, expand, and double print. [1]36 locations. [2]Programmable.	90 days parts & labor MailMerge software available. [1]Standard, unlimited storage on 8Kb diskettes.	1 year parts Automatic indent, bold, expand print, return, decimal tab, repeat key, index/reverse index, express key; copy control, no print key, character counter, remaining memory, global search & replace, block delete.

High-Level Electronic Typewriters

COMPANY	Royal	Royal	Royal	Silver-Reed
MODEL	5030 8Kb/16Kb	5040 16Kb/32Kb	5041 16Kb	EX77
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer	Printer with detached keyboard/display	Printer with detached kybd/dsply & d/drive	Keyboard/printer/ display
Typewriter Upgrade	16Kb memory	32Kb memory	—	Additional PC board
Correction Buffer Size	Up to 4,000 chars.	Up to 4000 chars.	Up to 4000 characters	Two-line correction
Phrase/Format Memory Size	4.5Kb (8Kb)/12Kb (16Kb)	12Kb (16Kb)/27.5Kb (32Kb	6Kb internal/300Kb disk	8Kb
Text Memory Size	2Kb (8Kb)/2Kb (16Kb)	2Kb (16Kb)/2Kb (32Kb)	4Kb work.	7Kb or 11Kb
Memory Protect	Up to 500 hours	Battery; 500 hours	Battery; 500 hrs	96 hours
DISPLAY FEATURES				
Display Type	LED	Fluorescent	Fluorescent	LCD
Display Capacity	3 characters	40 characters	40 characters	32 chars. x 2 lines
Character Generation	—	5 x 7 dot matrix	5 x 7 dot matrix	5 x 12 dot matrix
LED Indicators	Standard	Standard	Standard	Standard
PRINTER FEATURES				
Printer Speed/Type	17.5 cps	17.5 cps	17.5 cps	30 cps daisywheel
Printer Buffer Memory	16 characters	32 characters	32 characters	32 characters
Character Pitch/Spacing	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS
Writing Line Width	13.2″	13.2″	13.2″	13.2″
Carriage Paper Width	16.5″	16.5″	16.5″	17.0″
First Line Forms Advance	Standard	Standard	Standard	Standard; adjustable
End-of-Page-Stop	None	None	None	Standard; adjustable
Justified Printout	Standard	Standard	Standard	Standard
Sub/Superscript Printout	Standard	Standard	Standard	Standard
Non-Adjust Printout	None	None	None	Standard
Bidirectional Printout	None	None	None	Standard
Delay Print Mode	Standard	Standard	Standard	Standard
Multi-Lingual Capability	Standard	Standard	Standard	None
AUTOMATED TEXT FEATURES				
Default Format	Standard	Standard	Standard	None
Stored Multiple Formats	Standard	Standard	Standard	Standard
Forms Input	Standard	Standard	Standard	Standard
Stop Codes	Standard	Standard	Standard	Std. + message codes
Column Layout	None	None	None	None
Variable Line Spacing	1, 1½, 2, 2½	1, 1½, 2, 2½	1, 1½, 2, 2½	1, 1½, 2, 2½
Automatic Relocate	Standard	Standard	Standard	Standard
Automatic Center	Standard	Standard	Standard	Standard
Automatic Underline	Standard	Standard	Standard	Standard
Pagination	None	None	None	Standard
Document Assembly/Merge	None	None	None	Standard
Text Search	None	Global search	Global search	Standard
Block Move/Copy	None	None	None	Standard
COMMUNICATIONS				
Availability	Optional	Optional	Optional	Opt. (comes w/disk. dr.)
Protocols & Speeds	RS-232-C, IEEE 488, Centronix, TTY Telex[1]	RS-232-C, IEEE 488, TTY Telex[1], Teletex, Cent.	RS-232-C, IEEE 488, TTY Telex[1], Teletex, Cent.	RS-232-C, 150-9600 bps
PERIPHERALS				
External Storage Size/Type	See below[2]	See below[2]	See below[2]	Mini-flop dsk 80K/dsk
Add-On CRT	12″ CRT	None	None	None
Others	Forms feed, sheet feeder	Forms feed, sheet feeder	Forms feed, sheet feeder	—
BACKGROUND INFORMATION				
First Delivery Date	June 1981	October 1982	October 1978	January 1983
Country of Manufacture	West Germany	West Germany	West Germany	Japan
PRICING AND TERMS				
Purchase	$1,575 (8Kb) $1,825 (16Kb)	$2,375	$3,595	EX77 $1,995 EX77E $2,415, EX77FD $3,295
Rental	Through dealer	Through dealer	Through dealer	Through dealer
Lease	Through dealer	Through dealer	Through dealer	Through dealer
Maintenance	Through dealer	Through dealer	Through dealer	Through dealer
Warranty & Support REMARKS & OTHER FEATURES	90 days lbr, 6 mo pts [1]AT 110-1200 baud. [2]MCM stringy floppy cassette; Adler Textriter; single or dual drive.	90 days lbr, 6 mo pts [1]At 110-1200 baud. [2]MCM stringy floppy cassette; 5¼″ double sided, dual density disk drive; 300Kb per disk.	90 days lbr, 6 mo pts [1]At 110-1200 baud. [2]5¼″ double sided, dual density disk drive; 300Kb per disk.	90 days, MSR support Other features: bold & bold underscore; merge without diskette.

High-Level Electronic Typewriters

COMPANY	TEC America	3M	3M	3M
MODEL	TW-3000	600	800	900
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer/display	Keyboard/printer/display	Keyboard/printer/display/diskette	Keyboard/printer/display/disk
Typewriter Upgrade	Additional board	Unit replacement	Unit replacement	None
Correction Buffer Size	2000 chars (60 lines)	2 lines	2 lines	4Kb
Phrase/Format Memory Size	1Kb	830 characters	830 characters	140Kb diskette[1]
Text Memory Size	3Kb	16K characters	70Kb diskette	140Kb diskette[1]
Memory Protect	Battery; 30 days	Battery; 1 month	Disk protect	Battery; disk protect
DISPLAY FEATURES				
Display Type	Vacuum fluorescent	Vacuum fluorescent	Vacuum fluorescent	Vacuum fluorescent
Display Capacity	20 characters	20 characters	40 characters	40 characters
Character Generation	5 x 12 dot matrix	5 x 12 dot matrix	5 x 12 dot matrix	9 x 12 dot matrix
LED Indicators	Standard	Standard	Standard	Standard
PRINTER FEATURES				
Printer Speed/Type	18 cps daisywheel	20 cps daisywheel	30 cps daisywheel	16 cps daisywheel
Printer Buffer Memory	32 characters	256 characters	256 characters	2 lines
Character Pitch/Spacing	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS
Writing Line Width	13.6"	13.2"	13.2"	13.2"
Carriage Paper Width	16.5"	17"	17"	17"
First Line Forms Advance	Standard; programmable	Standard	Standard	None
End-of-Page-Stop	Standard; programmable	Standard	Standard	Standard
Justified Printout	Standard	Standard	Standard	Standard
Sub/Superscript Printout	Standard	Standard	Standard	Standard
Non-Adjust Printout	Standard	Standard	Standard	Standard
Bidirectional Printout	None	Standard	Standard	Standard
Delay Print Mode	Standard	Standard	Standard	Standard
Multi-Lingual Capability	Standard	Standard	Standard	Standard
AUTOMATED TEXT FEATURES				
Default Format	None	None	None	Standard
Stored Multiple Formats	None	Standard	Standard	Standard
Forms Input	Standard	Standard	Standard	Standard
Stop Codes	Standard	Standard	Standard	Standard
Column Layout	None	Standard	Standard	Standard
Variable Line Spacing	1, 1½, 2, 2½	1, 1½, 2, 2½, 3	1, 1½, 2, 2½, 3	1, 1½, 2, 2½, 3
Automatic Relocate	Standard	None	None	Standard
Automatic Center	Standard	Standard	Standard	Standard
Automatic Underline	Standard	Standard	Standard	Standard
Pagination	None	Standard	Standard	Standard
Document Assembly/Merge	None	Document assembly	Standard	Document assembly only
Text Search	Standard	Standard	Standard	Standard
Block Move/Copy	None	None	Standard	Standard
COMMUNICATIONS				
Availability	Optional	Optional	Optional	None
Protocols & Speeds	RS-232 or parallel	Asynch. ASCII, TTY 110-2400 bps	Asynch. TTY, 100-2400 bps	None
PERIPHERALS				
External Storage Size/Type	None	None	Mini-diskette	140Kb diskette
Add-On CRT	None	None	None	None
Others	None	Sprocket feed	Sprocket feed	None
BACKGROUND INFORMATION				
First Delivery Date	Fourth quarter 1983	1982	1982	1983
Country of Manufacture	Japan	Italy	Italy	USA
PRICING AND TERMS				
Purchase	$1,295	$2,795	$4,795 (single disk) $5,420 (dual disk)	$3,495
Rental	Through dealer	Through dealer	Through dealer	None
Lease	Through dealer	Through dealer	Through dealer	Up to 36 months
Maintenance	Through dealer	$295/year	$540/year	$399/year
Warranty & Support REMARKS & OTHER FEATURES	90 days parts & labor Multi-lingual capability.	90 days parts & labor Reverse print, auto. page numbering. Operator training onsite or classroom; first operator no charge.	90 days parts & labor Reverse print, auto. page numbering, Basic programming CP/M. Operator training on-site or classroom; first operator no charge.	90 days parts & labor [1]Phrase and text memory.

High-Level Electronic Typewriters

COMPANY	Xerox	Xerox	Xerox	Xerox
MODEL	615 Memorywriter	620 Memorywriter	625 Memorywriter	627 Memorywriter
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer	Keyboard/printer/display	Keyboard/printer/display	Keyboard/printer/display
Typewriter Upgrade	Additional PC boards	Additional PC boards	Additional PC boards	Additional PC boards
Correction Buffer Size	180 characters	180 characters	180 characters	180 characters
Phrase/Format Memory Size	5450 characters for	9400 characters for	19,300 characters[1]	31,000 characters[1]
Text Memory Size	phrase and text	phrase and text	19,300 characters[1]	31,000 characters[1]
Memory Protect	Battery; 120 hours	Battery; 120 hours	Battery; 120 hours	Battery; 120 hours
DISPLAY FEATURES				
Display Type	None	Vacuum fluorescent	Vacuum fluorescent	Vacuum fluorescent
Display Capacity	None	20 characters	20 characters	20 characters
Character Generation	None	5 x 12 dot matrix	5 x 12 dot matrix	5 x 12 dot matrix
LED Indicators	Standard	Standard	Standard	Standard
PRINTER FEATURES				
Printer Speed/Type	20 cps daisywheel	20 cps daisywheel	20 cps daisywheel	20 cps daisywheel
Printer Buffer Memory	16 characters	16 characters	16 characters	16 characters
Character Pitch/Spacing	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS	10, 12, 15, PS
Writing Line Width	13.2″	13.2″	13.2″	13.2″
Carriage Paper Width	15.2″	15.2″	15.2″	15.2″
First Line Forms Advance	None	None	None	None
End-of-Page-Stop	None	None	None	None
Justified Printout	Standard	Standard	Standard	Standard
Sub/Superscript Printout	Standard	Standard	Standard	Standard
Non-Adjust Printout	Standard	Standard	Standard	Standard
Bidirectional Printout	None	None	None	None
Delay Print Mode	Standard	Standard	Standard	Standard
Multi-Lingual Capability	Standard	Standard	Standard	Standard
AUTOMATED TEXT FEATURES				
Default Format	Standard	Standard	Standard	Standard
Stored Multiple Formats	Standard	Standard	Standard	Standard
Forms Input	None	Standard	Standard	Standard
Stop Codes	Standard	Standard	Standard	Standard
Column Layout	Standard	Standard	Standard	Standard
Variable Line Spacing	1, 1½, 2, 3	1, 1½, 2, 3	1, 1½, 2, 3	1, 1½, 2, 3
Automatic Relocate	Standard	Standard	Standard	Standard
Automatic Center	Standard	Standard	Standard	Standard
Automatic Underline	Standard	Standard	Standard	Standard
Pagination	None	None	None	None
Document Assembly/Merge	None	Standard	Standard	Standard
Text Search	None	Standard; char. string	Standard; char. string	Standard; char. string
Block Move/Copy	None	None	None	None
COMMUNICATIONS				
Availability	Optional	Optional	Optional	Optional
Protocols & Speeds	TTY, 110-1200 baud	TTY, 110-1200 baud	TTY, 110-1200 baud	TTY, 110-1200 baud
PERIPHERALS				
External Storage Size/Type	None	None	None	None
Add-On CRT	None	None	None	None
Others	None	None	None	None
BACKGROUND INFORMATION				
First Delivery Date	July 1982	September 1982	September 1982	September 1982
Country of Manufacture	USA	USA	USA	USA
PRICING AND TERMS				
Purchase	$1,395	$2,150	$2,450	$2,750
Rental	None	None	None	None
Lease	Equity lease available	Equity lease available	Equity lease available	Equity lease available
Maintenance	Full service $246/yr Parts only $120/yr	Full service $291/yr Parts only $132/yr	Full service $291/yr Parts only $132/yr	Full service $291/yr. Parts only $132/yr.
Warranty & Support	90 days parts & labor	90 days parts & labor	90 days parts & labor	90 days parts & labor
REMARKS & OTHER FEATURES	Upgradable to 620, 625, 627, or 630.	Upgradable to 625, 627, or 630.	Upgradable to 627 or 630. [1]Phrase and text memory.	Upgradable to 630.

High-Level Electronic Typewriters

COMPANY	Xerox			
MODEL	630 Memorywriter			
TYPEWRITER CONFIGURATION				
Standard Configuration	Keyboard/printer/ display/disk			
Typewriter Upgrade	None			
Correction Buffer Size	180 characters			
Phrase/Format Memory Size	4000 characters internal			
Text Memory Size	138,300 chars diskette			
Memory Protect	Battery; 5 days; disk protect			
DISPLAY FEATURES				
Display Type	Vacuum fluorescent			
Display Capacity	20 characters			
Character Generation	5 x 12 dot matrix			
LED Indicators	Standard			
PRINTER FEATURES				
Printer Speed/Type	20 cps daisywheel			
Printer Buffer Memory	16 characters			
Character Pitch/Spacing	10, 12, 15, PS			
Writing Line Width	13.2"			
Carriage Paper Width	15.2"			
First Line Forms Advance	None			
End-of-Page-Stop	None			
Justified Printout	Standard			
Sub/Superscript Printout	Standard			
Non-Adjust Printout	Standard			
Bidirectional Printout	None			
Delay Print Mode	Standard			
Multi-Lingual Capability	Standard			
AUTOMATED TEXT FEATURES				
Default Format	Standard			
Stored Multiple Formats	Standard			
Forms Input	Standard			
Stop Codes	Standard			
Column Layout	Standard			
Variable Line Spacing	1, 1½, 2, 3			
Automatic Relocate	Standard			
Automatic Center	Standard			
Automatic Underline	Standard			
Pagination	None			
Document Assembly/Merge	Standard			
Text Search	Standard; char string			
Block Move/Copy	Standard			
COMMUNICATIONS				
Availability	Optional			
Protocols & Speeds	TTY, 110-1200 baud			
PERIPHERALS				
External Storage Size/Type	5½" single disk drive			
Add-On CRT	None			
Others	None			
BACKGROUND INFORMATION				
First Delivery Date	January 1983			
Country of Manufacture	USA			
PRICING AND TERMS				
Purchase	$4,200			
Rental	None			
Lease	Equity lease available			
Maintenance	Full service $576/yr Parts only $324/yr			
Warranty & Support	90 days parts & labor			
REMARKS & OTHER FEATURES	Set lines per page, page end, global search & replace, repetitive letters & doc. assembly software.			